BRITISH SCHOOL OF ARCHAEOLOGY
IN EGYPT
AND EGYPTIAN RESEARCH ACCOUNT
SIXTEENTH YEAR, 1910

MEYDUM
AND
MEMPHIS (III)

BY
W. M. FLINDERS PETRIE
ERNEST MACKAY
AND
GERALD WAINWRIGHT

LONDON
SCHOOL OF ARCHAEOLOGY IN EGYPT
UNIVERSITY COLLEGE, GOWER STREET, W.C.
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W. M. FLINDERS PETRIE

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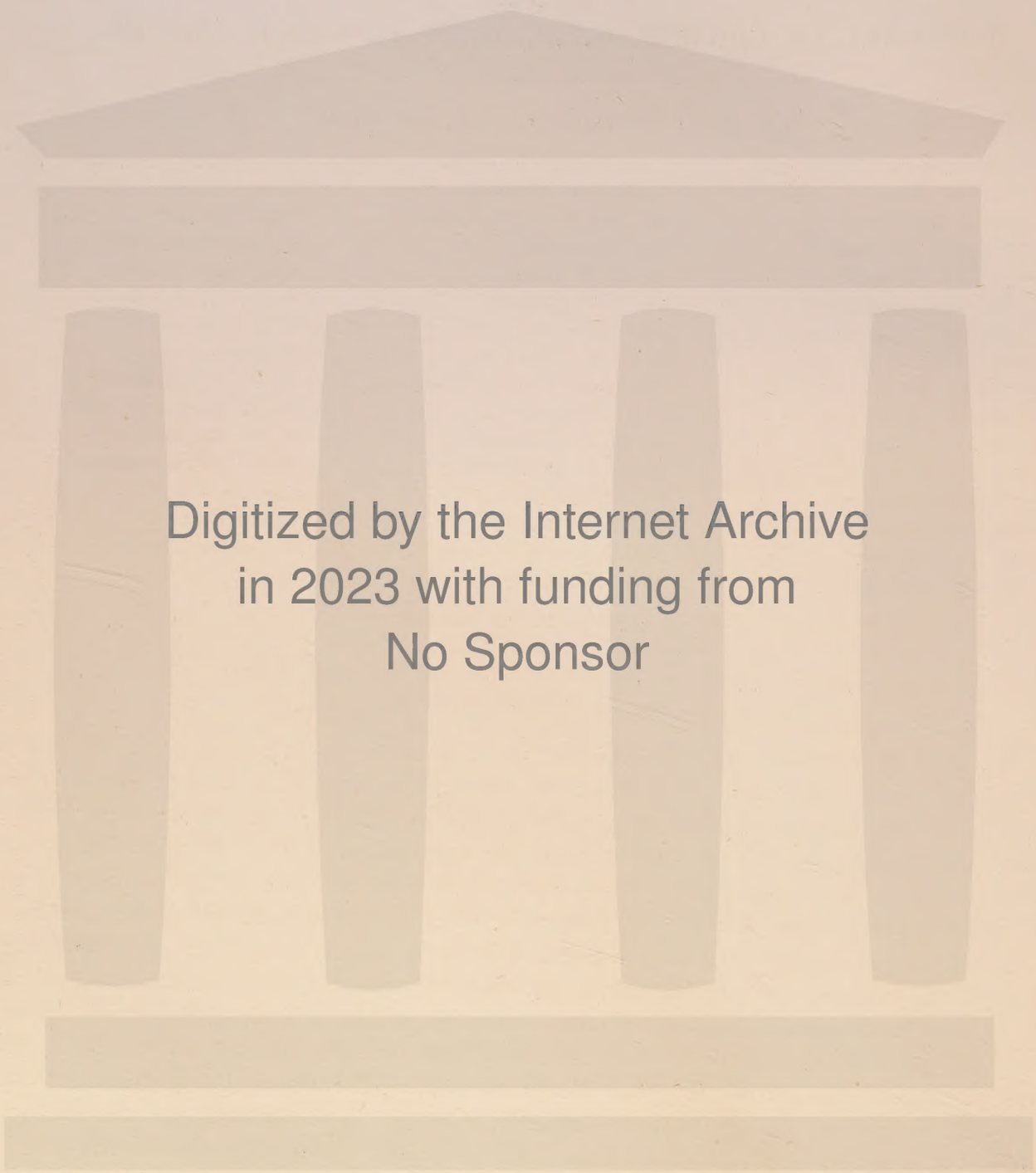

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MEYDUM AND MEMPHIS

CHAPTER I

GENERAL RESULTS AT MEYDUM.

By FLINDERS PETRIE.

1. THE WORK at Meydum this year was, in each direction, a carrying out of that which I had begun in 1891; and the purpose of this chapter is to link the present results with those of nineteen years ago, and also to give a current outline of the recent work, especially in relation to the plates of this volume. The order in which the different subjects will be noticed here is the same as that of the detailed descriptions by Mr. Mackay and Mr. Wainwright in the succeeding chapters; and it may be easier to follow the exact register of the work recorded by them, after grasping the outlines in a connected form. The date of the pyramid is that of King Sneferu at the close of the iiird dynasty, and the cemetery is mostly of the same age.

No attempt is made here to repeat the information in my previous volume *Medum*, now out of print; the whole of that is needed for any study of the site, there is nothing to be altered or omitted from it, but I doubt if a second edition is desirable.

The work this year was started by Mr. Mackay and Mr. Wainwright, at the beginning of December 1909, each taking separate parts of the site. Mr. Benton Fletcher joined us at Meydum, and very kindly helped us by drawing all the pottery and scarabs there. I went to Memphis early in February 1910, and Mr. Mackay followed in the middle of the month, Mr. Wainwright staying on at Meydum moving the sculptures and working on Nefermaat and the pyramid. At Memphis Mr. Bushe-Fox joined us and worked out the pottery kilns of Ptolemaic and Roman age, besides taking part in the clearance on the Ptah temple. The work was closed during the latter part of April. The spelling of the name of Meydum may be noted. In the previous publication I followed the custom of using a long *e* for the Arabic *ye*; but, seeing the importance of using a transliteration which shall indicate the Arabic spelling, I have since used *y* in all cases for *ye*, as in the words Sheykh and Bedawyn. Hence the more correct spelling is Meydum, and that form prevents mispronunciation of the name. The difference in the name will sufficiently indicate whether references are to the previous volume or the present.

2. A curious feature of THE PYRAMID of Sneferu, which was noted in the previous work, is the presence of a broad shallow groove on the faces of the two inner casings. These are shewn on the view pl. i, 2, by arrows at the sides of each groove, pointing down to the top casing, and upwards on the lower casing. These grooves are only visible on these casings and not on the coats outside of these, nor on the outer casing at the pyramid angle of 51° 52′ which covered over all the steps finally. The hollow appears to be about two or three inches deep, and has been trigonometrically observed as 211 wide on the upper, and 195 on the lower face. In 1891 I proposed that these grooves were analogous to the grooves on the successive coats of brick mastabas, indicating where the false door and *ka* chamber lay behind them in the first body of the mastaba; hence these grooves might indicate that there was a *ka* chamber in the first body of Sneferu's mastaba.

This year we cleared away the great mound of chips and blocks from the eastern face of the pyramid, working in successive steps, from each of which the stuff was carried out sideways, as seen in pl. xiv, 3. In this way we bared the south side of the small temple, and the casing down to the base, pl. xiv, 2. Then a pit was sunk outside of the pyramid, and a tunnel cut under its foundation for 150 feet to the inner body of the mastaba. This passed through gravel laid under the pyramid-angle casings, and through solid rock all the way beneath the mastaba-angle casings. There was not time to expand the work this season, enough to shew whether a *ka* chamber exists. The full account of this work will therefore be given in future.

The view of the pyramid from the west, pl. i, 1, gives the whole aspect of the visible coats, and the mound around the base which covers the 51° casing.

3. In connection with these curious grooves, we found this year a long APPROACH to the pyramid from the plain below, which is largely cut through the rock, and which points straight to the grooves. The position is shewn on pl. ii, in solid black, as it is paved with black brick. It is to the west of the later causeway leading to the temple, the stone walls of which are shaded here. The section of this approach is given on the upper part of pl. iii, with the vertical scale (1 : 200) four times that of the horizontal (1 : 800), so as to shew the slope more distinctly. The bed of it is very nearly a straight line, being only a little steeper at the upper end. After cutting out the line in the rock, faces of brick plastered over were built along it, defining on each side the exact line of the track ; the bed was overlaid by a coat of brickwork, and on this lay a paving of limestone. The upper end of the brick lining is seen on the left of the view pl. i, 4 ; and the higher rock level not cut away on the right hand.

The purpose of this seems to have been to lead direct to the *ka* chamber, which is indicated by the grooves on the pyramid. Then after the third coating of the pyramid, that was abandoned, and a temple on the east face became the objective, for which the present causeway was made. The limestone paving was removed, and the whole of the approach was buried under rubbish thrown from the pyramid building, so as entirely to conceal the old track. The chip bed is seen in the cross section of the approach photographed in pl. i, 3. The brick edging to the track is seen across the end of the deepest trench. It was only when searching for tombs at the lower end that we lit on the rock cutting ; and it took some weeks of tracing it out before we could rightly understand it. The plan on pl. ii is that of *Medum* pl. vi with the addition of the approach, and of some more tomb pits found this year.

4 A search was made for a TEMPLE at the foot of the causeway, which was traced out with difficulty owing to the water level. The water was about five feet higher in the desert edge than it was in the Nile valley ; and some hundreds of feet of drain had to be cut about 5 to 10 feet deep to drain off the higher water. We thus uncovered the end of the stone foundations of the causeway walls, and found a retaining wall of a foundation running on from the southern side. By the side of this were two foundation deposits of pottery (pl. xxv), which point to there having been a temple at the south side of the causeway. We tried to trace this along a broad wall ; but that proved to be a very long wall, running south for over 300 feet, apparently a boundary to the cemetery. To search further for the temple needs the removal of 10 or 12 feet of sand, and descending into the water.

During the removal of the broken stones on the eastern face of the pyramid many quarry marks were found upon fallen blocks of casing, and others were found upon the stones in the course of tunnelling beneath the pyramid. These marks are copied on pls. v, vi, and described in chapter iii. The chronological results from the months of working are the most important yet known for the early dynasties. Akin to these is a piece of workmen's accounts, given on pl. xiv, 1, which refers to the building of the pyramid.

5. In the previous work I had suspected a PERIBOLUS TOMB, and attacked a large mass of chips on the south of the pyramid, within the enclosure of the peribolus. At twenty-five feet down, a great cutting and tunnel was found in the rock ; but the site was too large to be then cleared. On now removing about 1500 tons of hard concreted stone chips we bared a hole as seen in pl. vii, 1, where the size of the work boy against the masonry at the bottom shews the scale. We found the remains of the entrance passage (vii, 2) which led into a large subterranean chamber, of which only a part of one side remained (vii, 3). Around this pit, at not far below ground level, we found great substructures for a square pyramid, as shewn on the right side of pl. viii. There had been apparently a creep-hole provided for the workmen, which is seen on the detailed plan and section pl. ix. Probably men were needed to lower and fix the plug blocks of the entrance, and they then escaped by this passage on the south, much like the creep-hole passage in the pyramid of Khufu from the grand gallery to the entrance passage.

On the north of the pyramid we found a strange form of tomb. A small mastaba, fifty feet wide, and probably a hundred feet long, stood in the peribolus enclosure, see pl. viii. On the north side near the ground a sloping passage led down, see pl. ix, base. The rock cutting for this was nearly fifteen feet wide, and the building of it was splendid, with great beams and blocks of the fine white limestone. The passage was plugged with stone, below which a door slid in grooves. And yet after about twenty feet the end of all this fine work was reached, and only an ignoble

little room cut in the soft muddy marl contained the burial; and the roof of this had readily fallen and filled the chamber, in entire contrast to the splendid 14-foot beam of limestone which roofed the entrance to the chamber. Where sharp contrasts of work are found they are commonly supposed to be due to neglect. But here the rough crumbling chamber must have been cut first; and the massive stone passage was added in front of it, quite incongruously. The view of the work is seen on pl. vii, 4. In front are two courses of substructure under the wide beam of the floor of the passage. Upon that is the passage with sides two courses high, and over that the roof beam. The dark clothes, lying above, are against the marl roof of the chamber, which had to be cleared from the top owing to the loose state of it. The arrangement of the burial in a coffin is shewn at the foot of pl. ix, and the pottery found with it is on pl. xxvi, 68–71.

6. THE GREAT MASTABA No. 17 is the largest known, except that of Nefermaat. It was certainly by far the best built mastaba in Egypt, and it is the earliest private stone tomb known, and contains the oldest stone coffin. The chamber is far grander than that of the pyramid of Sneferu. It is therefore a main subject for examination. Unhappily not a single hieroglyph was inscribed on it, inside or outside: the false door recess, which is usually inscribed, was quite blank when the façade was uncovered by Prof. Maspero in 1882; since then it has been carried away for stone.

The position of this mastaba may be seen in pl. ii, at the outer edge. The full size of it is 4122 × 2064 inches, or 200 × 100 cubits, at the base level. The outer surface was of black brick, and the interior of clean stone chip and marl, laid here in regular layers by the builders of the adjoining pyramid. In 1891 I cleared the north end and east side in search of any entrance; then cleared over the top along the whole of the axis; and lastly sank a shaft 48 feet deep through the whole body behind the false door recess. This last shewed some brick retaining walls at the bottom, evidently belonging to a pit containing the chamber. But the danger of working in chip-ground at such a depth prevented further work then. This year we cleared out what had fallen into my old pit, and tried to enlarge the hole enough for safe working. But it proved needful to cut through the eastern side of the mastaba in order to enlarge the work, and obtain a safe and easy exit. This cut is shewn on pl. x, 3. The worker at the bottom of the cut is standing upon the brick retaining wall which rises far above the chamber. The excavation is much wider than is here seen from the entrance cut, in order to obtain sufficient safety in work. The square corner and upright side on the left of the entrance cut is the north end of the brick wall backing of the false door recess. The structure can be best understood from the plan and section pl. xii.

On making a wide clearance at the bottom we found the end of the entrance passage shewing, (see the left hand of pl. x, 2,) filled by a plug of stone, with a great lintel over it, and a wall of brickwork on each side. The wall on the north turned round a corner, as seen in the view, and ran back to B. From B to A (see letters on views 1 and 2, and on the plan pl. xii) was a slope of plastering, and at A rose up a retaining wall of plastered brick. These brick walls all have a strong batter, which is shewn by the top and bottom outlines parallel on the plan.

I then decided to cut through the plastering from A to B, below the pick in view 1, and on descending we reached the ends of large beams of stone, which apparently roofed the passage. Cutting out solid stone we descended to the side of the wall below the beams, and finally cut a way through that. We then were able to crawl into the space C, under the higher roof at the end of the passage, see section pl. xii, over the top of the plug blocks which extended the whole length down to the butt end of the entrance passage. On entering I saw the large hole in the end of the long passage (pl. x, 5) by which the tomb had been robbed while the plan of it was still well known.

7. THE SECTION of the mastaba (pl. xii, top) shews how the chamber is built in a pit in the rock, without any opening through the mastaba after it was piled up. The burial must have taken place soon after the chambers and passages were built, and before the piling of the 100,000 tons of stones and chips placed by the pyramid workmen in strata to compose the great mass above. At the sides will be seen the sloping brick walls of the mastaba, descending to the rock, as I proved in the previous excavation, when I also found the vertical box corners of brick outside of the mastaba walls, which had the elaborate system of guide lines upon them, in order to lay out sloping faces correctly on an irregular foundation (see *Medum* pl. viii).

The interior of the sepulchre (pl. xiii) is a noble piece of work. The long passage is nearly 8 feet high, 4 feet wide, and over 40 feet long. The

rounded corners to the doorways are a feature not met with elsewhere. The purpose of them is not apparent, as the sarcophagus is too big to pass the passages, and must have been built in, and the inner burial cannot have been large enough not to pass the corners. The rounding has been done after building, cutting the stone up to a red line marked down the wall. The effect of the wide, bold rounding gives a dignified spaciousness to the appearance. The main hall is over 20 feet long, 16 feet high, and 7 feet wide. The great roofing beams can here be seen above the passage and the recess. The size is 218 long, 103½ deep, and 50 inches wide, weighing therefore 38 tons.

The red granite sarcophagus in the recess (pl. x, 4) is probably fifty years older than that of Khufu, and is thus the oldest such known. As compared with the Khufu sarcophagus it is three times as thick; the length and height are the same, but the breadth is two-thirds larger. Its weight is 8½ tons, and the lid 3½ tons. Inside were the remains of the body, which, though broken up, shewed that it had been entirely unfleshed and each bone wrapped separately, and then recomposed. The full details observed by Mr. Wainwright are in chapter v.

8. The history of this INTERMENT seems to be that the hereditary prince of the district began to make a splendid tomb for himself as close as possible to the pyramid, finer than that of the king in its masonry and sarcophagus, as Sneferu had only a wooden coffin. The prince seems to have died about the time that the chambers were finished, and was buried in them without leaving any external access. The pyramid workmen piled up the mastaba with all their chips in even layers. By the time it was finished the interest in the dead had so far declined that no one took the trouble to carve the figures and inscriptions upon the stone façade on the east side.

We may note here the details of the objects found which are shewn in pl. xi. 1–3 the skull, unhappily so entirely broken up in travelling that it could not be restored. The bones, especially those shewing the attached wrappings, are now in one box together in the Department of Ethnology, British Museum. 4 is the mass of wrapping from the base of the skull, shewing the cervical vertebrae in the middle; the mass of padding from inside the jaw is to the right, the wrapping of the occiput to the left. 5 shews the penis modelled in cloth, as a separate parcel not attached: below that the inner side of the covering of the eye with the globular pad from the orbit, formed of cloth pressed in by a lump of lime-clay; to the right a packet of cloth simulating an embalmed organ. 6 the wooden carving of a girdle tie and tag of cloth. 7 the copper models of axes and chisels (at Manchester and Univ. Coll. Lond.). 8, crooks of wood and model mallet (with 6 at Univ. Coll. Lond.).

9. The great MASTABA OF NEFERMAAT had been examined along the top in 1891, and a pit sunk in it, without finding the burial chamber. This year I felt it needful to exhaust the question, so large pits were sunk in the axis behind the false doors of Nefermaat and his wife 'Atet, down to the native soil. The material of hard dried mud was very difficult to examine, as it could scarcely be broken, and the included flints made it wear away chisels quicker than cutting limestone rock. Neither pit shewed any trace of a chamber; but after I had left there I urged Mr. Wainwright still to continue by tunnelling in all directions. At last he found a great rock pit in no regular position, (see pl. iii, base,) with a built chamber in it. Strange to say the chamber stood on about four feet of dried mud put into the pit; and it was heaped around with large blocks of limestone, irregularly laid over the pit.

The form of the chamber was like that in the pyramid, see pl. iv for plan and sections; and the blocked-up doorway is shewn in pl. i, 5. Although the blocking was complete, and the chamber walls and floor were unbroken, yet the burial had been entirely plundered. This must therefore have been done by the workmen who closed the chamber and the shaft. The burial, as will be seen in chapter vi, was of an entirely unfleshed skeleton, like that of No. 17. Among the bricks removed in working here was one with the name of Nefermaat roughly written on it by the finger, pl. xx, 2 (Manchester).

In the plan of the southern part of the mastaba, pl. iii, will be noticed the body of the mastaba, and the separate coat built round it. The stone-built false door on the east side is built in the body, with a passage lined with fresco leading to it. The celebrated fresco of the geese was on the side of this passage, the remaining scenes of which had been almost destroyed in removing the geese to Cairo by Vassali. In front of the outer coat is a square courtyard, to receive the offerings.

10. The whole of the SCULPTURED FALSE DOORS and façades of Meydum were removed by us at Sir Gaston Maspero's request, as they had suffered severely some years ago, by depredations of Gizeh antiquity

dealers. The tomb-chapel of Nefermaat was delivered entire to the Cairo Museum, as also all the remaining parts of that of Rahotep. The chapel of Atet was removed to London, and distributed to different museums as follows, referring to the plates of my publication of it in *Medum*. Pl. xxii papyrus and fowler, Oxford; men cutting up ox, Brussels; line of lintel inscription, boys, and Atet, New York; block of titles *sab taiti that*, British Museum; sacrifice of ibex, Cambridge. Pl. xxiii left side, Munich; figure of Nefermaat, Bristol; figures of children, Edinburgh. Pl. xxiv left side, Chicago; offerers, Carlsberg; crane-bearer, cattle, and boatmen, Manchester; fowlers, boy and apes, Carlsberg. Pl. xxv Boston. Pl. xxvi Liverpool. Pl. xxvii upper half, Philadelphia; lower half, Brussels. The upper line of fresco pl. xxviii was sent to Philadelphia in 1891. The few blocks left of the small chapel of Nefert were brought to London. The figures on the only complete slab are photographed on pl. xx, 4, 5, 6, to shew the delicacy of the surface modelling of the limbs; the figure of a man is here reduced rather more than those of the women. It should be noted that the middle figure was begun standing, and not walking; the cutting of the back of the leg was started on, and the groove afterwards filled with plaster. This shews how the ground was lowered by hammer dressing before scraping it down. This slab is now at Carlsberg; the twenty-four pieces of the opposite slab of offerers are at Brussels; the middle of the false door at Oxford; the left side at Cambridge; the right side at Munich. As the whole tomb-chapels of relief work (Rahotep) and of inlay (Nefermaat) are to be set up in Cairo Museum, the most useful course was to distribute the other examples of this earliest tomb sculpture as widely as might be, so as to give points of reference in many centres for study.

We may also here note the block of *khaker* ornament, pl. xx, 3, which was found reused in a grave. From the fine curves of it, and the delicacy of the relief lines, it appears to be earlier than any other examples, and may well have belonged to a temple of Sneferu now destroyed (Oxford). The blocks of limestone, pl. xx, 1, with round holes in them, are found commonly in the masons' chip heaps. They appear to have been used for pivot blocks, to turn heavy levers on, in moving stones.

11. To the west of the pyramid there are two groups of tombs (see pl. xvi); a few GREAT TOMBS at about a furlong, and about three dozen lesser tombs at a quarter of a mile distant. The great tombs are of one type. A long trench was sunk into the ground, 80 feet long, 22 feet wide, and sloping down southwards to 36 feet deep, see pl. xv. In this was built a chamber, only a quarter of the breadth of the trench, with a sloping passage leading down to it, which was plugged with blocks of stone, see the model pl. xiv, 5. In one tomb, A, the sloping way to the stone passage was filled up, and a brick shaft substituted for access. This tomb was cleared and planned in the work of 1891, see *Medum* vii, bottom left.

There are some inexplicable features about these tombs, which are unlike any that we know of elsewhere. First, there was no trace of superstructure, such as a mastaba or offering chamber. I had the ground very carefully trenched to the east of the pits, but no trace of brick or stone work could be found. It seems then that these were intended to be hidden tombs, filled up, and left like the rest of the desert surface. Second, there seems no reason for excavating a trench in the rock twice as wide as necessary for the chamber, and then filling it up with huge blocks of stone; this cannot be due to an afterthought, as all these tombs are alike. Third, if filling it up there is no reason for always putting the chamber far to one side, and having a much wider mass of stone to the east of it. Fourth, the purpose of walling up with rough stones one side of the sloping approach, and not the other, is again quite inexplicable. This work may be well seen in pl. xiv, 6, where the breastwork of large blocks over the tomb entrance is in front, and the small stone walling at the left hand, and carried over the breastwork. These peculiarities naturally suggested that there must be another chamber, or a recess for statuary or offerings, somewhere east of the known chambers. Accordingly in one tomb we trenched all the ground to the east, to see if any sloping way led down to a *ka* chamber; we pulled out all the rude stone walling before the breastwork, to look for another entrance; and we removed all the filling of big blocks to the east of the chamber, but found them all continuous, and without any opening in the rock side of the pit. There seems then no possible reason for these strange and apparently useless features of construction. No objects were found in these tombs, except some late interments of the xxiind dynasty; the style and position of the tombs shew them to be of the age of Sneferu. There is an immense tomb of this type at three furlongs N.W. of the pyramid, but it seems to have been destroyed, and we only cleared the outline of the trench.

12. The FAR WESTERN TOMBS are all deep vertical shafts with chambers at the bottom (pl. xiv, 4). Most of the chambers are stone-lined, but some are cut in the rock with a pent roof. The strange matter here was that the portcullis blocks of two or three tons' weight were still standing on piles of stones above the doorways, and had only in two cases been lowered to cover the door. The tombs had evidently not been used by their original makers of the iiird dynasty; only later in the xxiind dynasty had rough coffin burials been put in the chambers, and the doorways plastered up. One of the used tombs (50) had a shaft 21 feet deep; the portcullis was lowered over the doorway; the slab was 82 inches high, 42 wide, and 14 to 16 thick. In the bottom of the shaft in front of the portcullis I found the granite vase pl. xix, 7, lying on its edge with the base against the middle of the portcullis slab (Carlsberg). From side to side of the portcullis in front of the vase was a row of limestone model jars, xix, 6, 8; xxiv, 11-15, lying on their sides. Inside the chamber there was nothing but the remains of the skeleton. In the other used tomb, 55, the alabaster jars had all been broken and the pieces scattered over the chamber, pl. xix, 1–5; xxiv, 1–9. These are at Carlsberg, except the cup, xix, 4 (Manchester). In this tomb were the flint flakes which I have rejoined so as to shew the method of fracture, pl. xxi, 17–22. Beyond these there was nothing obtained from this cemetery.

13. To the north of the pyramid lie the great sculptured mastabas of Nefermaat and Rahotep, and, a large number of minor mastabas and tombs down to the simplest hole in the ground. The only inscription obtained from here is that of an altar of a ruler of the palace and of the frontier of Khufu, named Sezefu, pl. xxxi (Cambridge).

The tombs in general (pl. xxii) are similar to those opened there in 1891, and recorded in *Medum*, pp. 20, 21. Beyond three headrests (see pl. xxi, 15, 16; pl. xxxix, bottom) there were no objects found here except the boxes for burial, shewn in pl. xxiii. The burials were all contracted, and nearly all on the left side, the head to the north and the face to the east. This exact reversal of the position which is characteristic of the prehistoric age shews that a great change had taken place with the incoming dynasties. This change took place as early as the 1st dynasty, as the servants of king Qa lay contracted with the head to the north in five cases, and only once to the south. Among late burials were some of the Persian age, which were examined by Dr. Rüffer. The curious bandage from the knee to the ankle on one mummy is shewn in pl. xix, 9.

To the south of the pyramid, at about a mile away behind the village of Meydum, there is a field of tombs of the iiird–ivth dynasty, but all have been so entirely plundered in recent times that there is nothing left to be recorded. At about four miles to the south there is another early cemetery. One tomb had a large tomb-chapel of brick, with life-size figures painted on the walls, of which a few fragments were found on the floor; but it has been denuded to within a foot of the soil. There were two deep shafts in the chambers (see plan pl. xxxi). In one chamber were some scraps of the funeral furniture, pl. xxi, 7–14, shewing that there were the painted wooden models of servants and cattle, and a boat with copper oars (11, 12, 13) which are unusual. In another tomb near this were the ivory bracelets pieced together, seen in pl. xxi, 1–5.

CHAPTER II

THE APPROACH TO THE PYRAMID.

By GERALD WAINWRIGHT.

14. MY time this year in Egypt was entirely occupied in work at Meydum. The principal divisions of it were (A) clearing the east face of the pyramid of Sneferu, and tunnelling in the rock beneath it; as this work may yet be carried further, it is not reported here: (B) tracing out a great approach or causeway, which was apparently filled up long before the building of the pyramid was finished: (C) finding the burial chamber of the anonymous mastaba, No. 17: (D) finding the burial chamber of the mastaba of Nefermaat: (E) clearing many graves near the approach, all of which had been robbed anciently: and (F) at Sir Gaston Maspero's request, taking down for preservation, and packing, the great sculptured chambers of Nefermaat, Atet, Rahotep, and Nefert, which had suffered severely in past years.

The Approach. In excavating to the east of the pyramid we came across a strange piece of work, consisting of a well-made causeway or approach, leading up from the cultivation to the level surface of the desert on the eastern side of the pyramid. The approach was very carefully constructed, being in some places cut into the rock to a depth of 6 or 8 feet. Where the rock gives out, it is banked up by a mound of rubbish, enclosed by a mud-plaster facing wall, so as to make an even slope up. The plan of it in

relation to the pyramid is given in pl. ii. The section is on pl. iii, and the slope of it is four times too great, as is usual in low sections ; the vertical scale being four times the horizontal.

The rock cutting is 201 inches wide, and inside it is rubble covered with mud-plaster running up either side, reducing the available width to 123 inches. On each mud wall is drawn a red line at a perfectly even slope, and between the walls the space is paved with crude brick. As we found one large limestone block *in situ* on the brick pavement, and its upper surface corresponded with the red line in its neighbourhood, this line no doubt shewed the height to which the stone paving was to be laid. Moreover at the top end the native rock was left rising high above the bed of the approach, up to just the level of the red line on the sides. If the approach were ever finished, the stone paving had all been removed before the rubbish was thrown in, for the rubbish lies directly on the brick foundation. The space between the sides of the rock cutting and the plaster walls was originally empty, for the throw of rubbish lies right across the walls, which it has broken down, and the fallen pieces either lie directly on the ground, or are propped against the part still standing, with an empty space underneath them (pl. iii).

15. The approach has all been filled up and concealed by the debris of the building of the pyramid. The western end, which is nearest the pyramid, is entirely filled with the concreted red sand of the surface clearance ; a little further down away from the pyramid the red sand is mixed with broken marl from the deeper digging, the marl increasing as the red sand decreases, and finally disappears ; soon after on the top of the marl is thrown clean limestone chip from the masons' work of building, and as this material increases in quantity, the marl in its turn gives out and finally disappears, so that the further two-thirds of the approach are filled up only with stone chip (pl. iii).

This filling is not the rubbish formed by the destruction of the pyramid, but is clean white chip, which has never lain about to become sunburnt. Therefore it is the refuse formed by the stone-dressing for the building of the pyramid. Moreover it is exactly the same as the chip filling of mastaba No. 17, and that composing the rest of the smooth ground, which has been levelled round about. It is not possible to suppose that any one but the builders would feel the necessity of leaving the neighbourhood neatly smoothed. Certainly later generations using the pyramid as a quarry would not be concerned with such niceties.

That the approach was cut before the pyramid was built is also shewn by the relative position of the different constituents of the filling. The first rubbish that was thrown into the approach was that which was first ejected—by digging the foundations at the pyramid—the concreted red sand and flint nodules which compose the upper stratum of the desert ; next came the marl, which lies directly under it, and into which the foundations of the inner parts of the pyramid are sunk ; especially deep are those of the face which has the lower groove on it (pl. i, and *Medum* pl. ii) ; and lastly came the rubbish which would be formed after the foundations had been dug and when building had begun—the masons' waste. It is of interest to note that of the five quarry marks representing *ur*, shewn on pl. v, four were found *in situ* against the foundations of this grooved face of the pyramid, and the other was found in the filling of the approach.

We were unable to find this mark elsewhere on the pyramid. Thus we at once have a strong presumption as to the exact provenance of this marl in the filling of the approach. Scattered through the mass, more especially in the top layers, are occasional early vases such as pl. xxvi, 65.

16. The approach did not lead to some large private tomb, for we carefully searched all the ground in front of its head. Hence it would appear to lead to the pyramid ; especially as its direction, which is roughly parallel to the previously known causeway, points directly to the grooves on the pyramid face, which may mark the position of the *ka* chamber, if there be one. Yet the approach is filled and hidden by the refuse from founding and building the outer coats.

Another proof of the early date at which this approach went out of use is to be found in a long wall at the edge of the cultivation connected with the later causeway, which runs right across its eastern end.

To recapitulate, the facts obtainable are these :—

(1) A carefully made approach, which leads to no private tomb, but points directly to the probable site of the *ka* chamber ; on the south half of the eastern face of the mastaba, which finally grew into the pyramid.

(2) This approach had fallen into disuse, and had had the stone paving, if any, removed ; after which

(3) It was filled up with the refuse from the digging of the foundations of the inner parts of the pyramid, probably the fifth coat of the mastaba next against the outermost groove, and with the refuse of the stonemasons' work in building the outer coats of the pyramid.

(4) This approach was superseded by another, leading not to the *ka* chamber, but to the temple against the centre of the pyramid.

The only hypothesis which seems to fit these premisses is that the first approach was made for the building of the original mastaba, from which the pyramid grew (Petrie, *Medum*, pp. 5, 10). When the king determined to enlarge it into a pyramid, surrounded by an enclosure, the old approach leading up to the south part of the face would be unsightly, and it was necessary to build a new causeway leading up to a temple against the middle of the face, which being done the old approach became nothing but an eyesore, to be done away with as quickly as possible. Hence they began at once to fill it up with the material they obtained from the foundations of the first parts of the new work.

This change of design appears to have taken place after the building of the fourth of the eight mastaba faces, that with the outermost groove (*Medum*, pl. ii). For such evidence as we have goes to prove that the idea of an enlarged mastaba, bearing the usual indications of the *ka* chamber in the form of a groove on its outside, lasted as late as the building of this fourth face, during all of which time the old approach would be suitable. Then we find the old approach filled up by rubbish which, as far as our evidence goes, came from the next work which was undertaken on the structure.

This can only mean that under the new scheme the old approach had become useless, and was replaced by the new causeway, which was part and parcel of the new arrangement.

Thus we see that the covering over of the whole cumulative mastaba with one uniform coat at the pyramid angle of 52° was a later idea, though perhaps conceived long before the end of the work. For this reason alone the pyramid coating could not be the work of Khufu, as has been suggested. As Sneferu reigned 26 years there would be plenty of time for him to complete his pyramid ; and the casing being dated in a seventeenth year shews that it was unlikely to have been completed in a subsequent reign.

The style of the temple being so solid, small, and plain is unlike anything of later date. The solidity and plainness are akin to the granite temple of Gizeh, while the rounded edges of the roof and top of the walls recall the rounded corners in mastaba No. 17, which, as we shall shew, is contemporary with the building of the pyramid. Also the stones at the corners of the walls generally run a few inches round the angle, as in the granite temple and in mastaba No. 17.

Hence from :—

(1) The change of design taking place during the building, not afterwards ;

(2) The date at which the casing was put on ; and

(3) The style,

it seems impossible to doubt but that the smooth coat is contemporary with the rest of the building, and is also due to Sneferu.

17. The long wall above mentioned, along the edge of the cultivation (see pl. ii), abutted on to the south buttress of the later causeway, and runs south from it. It is built of crude brick and is 65 to 75 inches wide. It was apparently a boundary wall, perhaps of the cemetery, for we traced it for a long distance without finding any corner or other wall branching off from it. Nor were there any relics of any sort accumulated against it, not even potsherds. It runs right across the east end of the earlier approach to the pyramid.

Running east from this south buttress of the later causeway, and in the same plane as its inner side, was a small wall of crude brick, which after 33 feet was broken away and lost. At this point was a cross wall running north and south, and in this corner was a foundation deposit of old kingdom pottery. In this building we also found another foundation deposit of similar pottery, and a broken quartzite corn-grinder. All the pottery of both deposits was broken, but enough remained in each case to give the outlines (pl. xxv).

Unfortunately this building was all lying at so low a level, that we had to drain the ground, and wait for the end of the season, when the water was low, before we could examine it. It was then too late to clear away all the great depth of sand which lay to the south of this. Such work might have revealed more walls, and have given foundation deposits, by which we could have planned the temple. But at present it seems as if there had been, on the south side of the causeway, a small chapel, on a scale similar to that of the temple within the temenos.

The position seems peculiar, but is in keeping with the general scheme of one-sidedness which characterizes the pyramid buildings; for the causeway is not at right angles to the temenos wall, whose gateway is not opposite the doorway of the temple, which is not in the middle but at the south end of that building.

The feature of a causeway starting from the north side of the low temple is also to be seen in the granite temple. That causeway, as well as this of Meydum, does not run at right angles to the pyramid.

CHAPTER III

THE QUARRY MARKS.

By FLINDERS PETRIE.

18. SOME quarry marks of the pyramid of Khufu at Gizeh were long ago published by Lepsius in the *Denkmäler* (ii, 1). But such inscriptions have hardly been collected with sufficient care, considering the historical information which they give. In the course of clearing the eastern face of the pyramid of Sneferu at Meydum, tunnelling beneath that, and turning over masses of the masons' chips elsewhere, many different kinds of graffiti have been noticed. These are published here in pls. v, vi; and the general account of them is given here. The discussion of the historical dating of 4800 B.C., shewn by them, will appear in the chronological papers in the second volume of the year, *Historical Studies.*

First there is the most important group of dated inscriptions, pl. v, 1–6. These were in red ochre paint, roughly daubed on, apparently with a coarse brush. They are mostly on the sloping rough faces of casing stones which would be outermost, painted on the rough surface which would later be trimmed away in finishing the slope. The purpose of putting them on this face was probably to enable the architect to notice the date of the material until it was finally dressed. That we should occasionally find them is probably due to some casing stones having been built in otherwise in the masonry, and thus escaped dressing down.

(1) "2nd month of Pert (Mekhir), day 22."

(2) "Year 17, 2nd month of Pert, day 24" (?).

(3) "Year 17, 2nd month of Pert, day . . ."

(4) "Year 17, 3rd month of Pert (Phamenoth), day of completion (30th)."

(5) "1st month of Shemu (Pakhons), day 22" (?)

(6) "Year 17 (?), 3rd month of Shemu (Epiphi), day 8" (?).

19. The next group is of various other inscriptions, which are found on flat faces of rough quarried stones.

(7) *Sethes*, "cause to be lifted up," or in modern phrase "this side up."

8 apparently shews a boat, and an unknown sign to the left of it. Across it at right angles, reading down from the right, is again "cause to be lifted up."

9 has also a boat, and at the left end the beginning of a date, "Year 14 + *x*."

11, "Great, divine house." As we see *ur*, "great," on the following to 14, with different designs, it may refer to the king, or possibly be the name of the quarry, or of the quality of the stone. The "divine house" or temple doubtless shews that it came from a stone for the temple here. The writing is in black. The flake was struck off and thrown away with the masons' waste in the approach.

10, 12, 13, "Great" with a sign following which varies in each case, but which seems as if intended for the same.

We now come to signs on pl. vi.

15 to 18 are evidently figures of the step pyramid of Meydum before it had its final uniform slope of casing; 18 is on the footing of the outer casing. These marks were to shew the destination of the stone. Above 16 are two signs incised; one is a *hotep* upside down.

19 is indistinct, and the direction is uncertain.

20 is a *hotep* sign, from the foundation of the outer casing.

21 is a town sign.

22 is the base of a *khaker* sign.

23 is a survey mark painted in red on the whitened retaining wall over the chamber of mastaba No. 17.

24 is an incised sign on a block in the pyramid rubbish.

25 is part of a word, possibly *maa-th(en)*, "road," as the *maat* sign is a square-ended cubit in this age.

26, 27, are diagrammatic signs unknown.

The best dated quarry mark was left at Cairo Museum, and others were sent to Manchester, University College London, Munich, and Chicago.

Lastly there are some much ruder quarry marks inscribed in black on the paving stones of the S.E. chamber of the palace of Apries, pl. vi, 28–36.

28A is a small inscription at the side of 28, naming the 13th year.

(29) "Year 13."

(30) "Year 11 + *x*."

CHAPTER IV

TOMBS WITHIN THE PERIBOLOS.

By ERNEST MACKAY.

The Southern Tomb.

20. THE principal work entrusted to me this year was that on the south side of the pyramid of Meydum. Prof. Petrie, before working upon this site in 1891, observed a large mound of limestone chips lying between the western part of the southern face and the pyramid wall. On going down in this, for some twenty-five feet or more, he came to two sides of a rock-cut pit, but owing to the great depth and hardness of the concreted rubbish, the work had to be abandoned till a more favourable opportunity.

My work was first begun in the large clearing made by Prof. Petrie, which though cut eighteen years ago was not much filled up by debris. The two sides of the rock pit observed by him were quickly reached, and then followed, progress being at first slow owing to the large blocks of stone hampering the work.

The majority of these were much too large to be taken to the surface, or to be broken up, and we had to examine the southern portion of the pit first by rolling the stones to the north, and when this had been done, rolling them back again.

As our clearance progressed north, large stones were observed in position on the eastern and western sides, until finally we came upon the southern end of an entrance passage running north, with the original plugging blocks still in position. See pls. vii–ix.

It was now seen that we were in what remained of a large subterranean tomb, cut in the rock, and formerly lined with massive limestone blocks, most of which had been removed in early times (possibly in the xxth dynasty) for building material.

In the passage south of the plug-blocks were found two burials, in a contracted position, which was due to the size of the passage. They were placed on the rubbish which half filled it.

These bodies, presumably of the xxiind dynasty, were lying on their right sides, with their heads to the west, and looking south, and were protected by the passage being walled in at the south with small blocks of stone and cement. No offerings or amulets were found with them ; but a small copper bowl was found in the rubbish beneath them, which had been badly battered by an edged instrument, such as an adze, in an attempt to destroy it. (At Manchester.)

The whole rock cutting was carefully searched to the bottom for more objects, but nothing further was found.

As the bowl could not be of the same date as the burials beneath which it lay, it is quite possible that it is all that is left of the offerings deposited with the original burial at the end of the iiird dynasty.

21. The plan of what remains of this tomb will be seen in pl. ix. It was not practicable to find the northern face of the rock pit in which it lay, owing to the northern portion having built blocks lying in position on each side of the entrance passage.

The eastern face of the passage is the best preserved, and runs south until it reaches point B (pl. ix), which is the limit of stone in position on this side. The faces of the stones from B to C are very rough, and as there are no indications that a turn was taken here to the east, it is probable that the wall was carried along to the southern side. This would agree with a series of tombs opened up to the west of the pyramid (pl. xv).

Of the western side of the entrance way very little remains, except for five courses of stones rising in steps from D to E, the top course at E being just below the great lintel stone of the passage, see pl. vii.

The two bottom courses (section pl. ix) are what remains of the stone floor of the tomb, except for that which forms the floor of the passage, which is 38 inches deep.

Two of the stones above these two pavement courses shew evidence of finished faces, and I have indicated the positions of these on the plans by the line FF.

It is reasonable to suspect that the thickness of the stonework on the eastern and western sides of this demolished tomb would have been the same, and I have therefore shewn the western side in a broken line at F and G.

The southern end of the chamber is impossible to place with any reasonable certainty. It is probable, however, that there was the same amount of stonework here as on the eastern and western sides. It will be noticed that the S.E. and S.W. corners of the rock pit have been left projecting, doubtless for reasons of economy.

22. As remarked before, the southern portion of the passage is perfectly preserved ; but we did not see the northern end, owing to the immense quantity of pyramid rubbish under which it lies. The passage measures 47·3 inches in breadth by 63·7 in height, and is surmounted at its exposed end by a lintel

of limestone 186 inches long, 42 inches high, and 22 inches wide (see pl. vii). This is left quite rough above and at the ends, but well finished on the joints and underside, which forms part of the ceiling of the passage.

The original plugging of the entrance is still in place, and is formed by two courses of limestone. The exposed parts of these are badly broken, but the width of the top block is 45·7 inches.

The bottom block was prevented from sliding into the chamber, by the floor of the passage at this point being considerably lower than that of the chamber. The same idea in construction is to be seen in three subterranean tombs to the west of the pyramid, one of which is shewn in pl. xv, and modelled on pl. xiv.

A curious feature exists on the south side of the rock cutting in the shape of a passage leading from the pit, and running south for 267 inches. It terminates in a vertical shaft 48 inches square rising to the surface of the ground.

This passage is but roughly cut in the soft rock, and has an average height of 37 inches, the roof being slightly curved. At the southern end of this are three large blocks of limestone set across the roof, apparently in position, and projecting slightly into the shaft.

It will be seen from the plan, pl. ix, that this passage faces the continuation of the eastern wall of the tomb chamber, A to B. The floor of this at its southern end is 88 inches below the bottom of the rock cutting.

23. The bottom of the rock pit is 229 inches below the level of the desert, the top of the lintel stone being 86 inches below the desert. At least one or more courses of stone must have been placed on the roofing blocks of the chamber and passage, presuming the former was of the same height as the latter, as is the case in the western tombs. This would leave but little doubt that a superstructure once covered this tomb, which has been entirely destroyed for the sake of the stonework it contained, as 48 inches of stonework above the roofing blocks would not have been considered, in a tomb of this description, a sufficient safeguard against robbery.

On examining the ground beyond the western side of the rock cutting, we came across what was at first supposed to be the top of another tomb of a similar description, but with a pent roof (see B, pl. viii), the stonework rising to the west at an angle of about 30°.

A gang of men were immediately set to the north of this at A, to try to find an entrance passage. The limit of stone on this side was speedily reached, and found to be abutting against the end of a rock trench in which it was laid. Thinking that here we had a sloping way or shaft protected by its original filling of stone, we started to remove the blocks which lay upon it, but a short examination soon shewed us that native rock lay beneath them. An interesting find was made here of a mason's mallet wedged between two stones, of the same pattern as those commonly found in the xviiith dynasty and later. A wooden hoe of the usual pattern, and a tipcat, were also found here about 6 feet below the surface of the pyramid rubbish.

These two last could not be dated with certainty by their form, and nothing else was found with them; but the mallet must be of the same date as the tomb, say late iiird dynasty.

Work was again resumed at B to endeavour to effect an entrance through the top of the pent roof of our supposed tomb, but again we came to rock after removing three courses. Similar large blocks of stone, roughly cemented together with mortar, were then found at C to the east of the destroyed tomb.

It will be seen from the plan, pl. viii, that these foundations make a fairly regular square of some 1100 inches, the centre of which is occupied by the tomb chamber. This leaves but little doubt that they formed part of a small pyramid, the sides of which measured about 50 cubits, allowing a little for the footing. As this lies between the large pyramid and its peribolos wall, it must have been provided for a person of royal rank.

The foundations on the west at B, which are the best preserved on this side, must have been laid on a slope in order to meet the thrust of the casing of the pyramid. Its highest and western portion was only 4 inches below the desert surface, and it sloped down to 80 inches below desert on the east. Similarly the stones on the east of the tomb (C) were also on a slope, but at a considerably lower level than those on the west; the difference being 18–19 inches was perhaps due to a top layer of stones having been removed.

The entrance to this tomb, if its slope was uniform, must have been either at the base of the pyramid covering it, or perhaps slightly below the permanent level.

In the course of the clearance at C a small fragment of stone was found, shewing the legs of a hawk cut in relief upon it. This probably formed part of a royal stele which had been broken up in the

vicinity. With the exception of this, no signs of sculpture were observed.

The Northern Tomb.

24. It will be noticed in the plan of the north side of the pyramid, pl. viii, that there is a greater space between it and the peribolos wall than exists on the other three sides. The presence of a royal tomb was therefore suspected here. On the second day of our work we came upon a sloping passage cut in the rock, descending to the south, pl. ix (C). This gradually widened out into a rock-cut trench, 402 inches long and 172 inches wide, almost filled up with large blocks of stone, cemented together with rough mortar. On tracing the south end of this trench, which was but roughly cut, a lintel of limestone was met with (E), set across the breadth of the trench, its back abutting against the rock. On clearing down the face of this, the sides of a stone-lined passage were met with. The end of this stone passage was obstructed at A by a large mass of rock, and it was at first thought that the passage ended here, and that it was either a dummy passage to deceive plunderers, or some kind of relieving chamber placed over the sepulchral vault. Accordingly the stones at the northern end of the trench F were removed at different places, in search of a second passage or shaft; but in every case we came down to solid rock.

Renewed attention was then paid to the southern end of the passage A, and a man was set to work there in order to cut away the soft brown marl beneath the lintel stone.

The sides of a narrow and short passage were then traced, leading into a rough chamber to the west, the greater part of the roof of which had fallen in, and thus entirely blocked up the passage at A.

The floor of this chamber, as will be seen in the plan, is considerably below that of the passage, there being a drop here of 48 inches.

25. On the western side of the chamber there was found an intact burial in a wooden coffin 55½ inches long and 19 inches wide (outside measurements), containing a body with its head to the north, facing east. This was lying on its left side, the legs partially contracted, both arms drawn up, and the hands placed before the face (see left base of pl. ix). The thickness of the box and other details could not be observed owing to the decayed state of the wood. The outside measurement of the coffin was only rendered possible owing to the sand which lay against it having become concreted by the action of salt,

Placed in front of the face at the east, and outside the coffin, were seven small rough offering dishes, which were all similar (pl. xxvi, 71). Together with these was a large pottery jar (fig. 68), and a small cylinder jar of pottery (fig. 69).

Scattered on the floor of the chamber, between the coffin and the entrance, were two other jars similar to 68, but these were too badly decayed to be preserved or photographed. They both contained a solid mass of resin and cloth, but no signs of any human organ were observed in this.

Between the body and the western side of the coffin, close to the pelvis, were six more small jars, four of which were of cylindrical form, 69. These held each a small quantity of a light yellowish clay. The other two were of forms 51 and 70.

Unfortunately the state of the bones prevented them from being preserved, but the lower jaw was sound, having been protected by a lump of resin and cloth which was found adhering to the inside surface of the bone and teeth. No trace of this substance was found either inside or outside of the skull, which fell to pieces on being lifted.

The bones were also examined as far as was possible in search of further traces of a preservative; but that adhering to the jaw, and the lumps found in the two pottery jars, were all that was found.

We have therefore from this tomb distinct evidence of attempted mummification, though how the resinous packing was placed inside the mandible is not easy to understand, unless the flesh was first stripped from the bone.

26. The measurements of the chamber are 76 inches N. to S., and 91 inches E. to W. The roof was badly broken, but I have estimated and shewn it on the plan as being 155 inches high. The orientation of this and the stone passage was north to south.

Before finding the chamber we had noticed on each side of the passage, close to the lintel stone, a vertical groove rounded inside, 7½ inches wide and 6 inches deep, and extending down to the paving. These grooves must have been cut for the purpose of holding a portcullis, no traces of which now remain. A slab of sufficient thickness to fit these grooves, and yet of sufficient strength, must have been made of granite or similar hard stone.

A large plug block of limestone, the upper part of which has been destroyed, was found inserted in the passage at D. This fits the entrance so well that it was at first thought that the passage ended here, and that a large horizontal block was laid against its

ends. The depth of this plug is 15 inches at the base.

The size of this passage was 232 inches long and 27½ inches wide. The top layer of pavement blocks was laid under its sides, and projects beyond them at the north for 22 inches. The thickness of the upper course of flooring is 21 inches: the base of the lower course is doubtful, and is therefore shewn in the plan by a broken line.

The limestone lintel was 158 inches long, 41 inches wide, and 42 inches thick at its base. The stone was but roughly dressed, with the exception of its underside. The top surface of the lintel measures 20½ inches wide.

The remains of a mastaba which was placed above this tomb, were discovered amidst the fallen blocks and chips of pyramid rubbish, beneath which it lay. This mastaba had been almost entirely removed, and no trace of a face was found.

A series of trenches was cut in the ground to the east and west of this tomb in search of further remains. Nothing more was seen to the eastward, but a long low brick wall was found to the west, 21 inches thick, and supported by buttresses 5 inches thick. The two ends of this were not traced. As this lay to the east of the entrance passage of the pyramid, another similar wall was looked for farther west, but with no result.

It is, however, possible that a western wall has been destroyed, and that the two formed some kind of gangway leading to the pyramid.

CHAPTER V

THE GREAT MASTABA, NO. 17.

By GERALD WAINWRIGHT.

27. WE attacked once more the two largest mastabas at Meydum, which until now had defied the attempts of explorers to open them; namely, that known as No. 17, as it has no name upon it, nor even a single hieroglyph, and the mastaba of Nefermaat.

It proved a hard and long job to open No. 17, for we had to dig the great pit shewn in pl. x, as it would have been dangerous for the men to work in any smaller space, owing to the continual fall of chips, which would have blocked a smaller pit.

In going down we exposed the interesting feature of the dry stone walls, occasionally found running through the mass; they were apparently limits for successive banks of filling, and were intended to bind the whole together, for the sake of stability.

The mastaba was composed of the clean limestone chips from the building of the pyramid, quite white and fresh on all sides, just like the filling of the pyramid approach and the constituents of the levelled space round the pyramid.

Besides this unweathered chip there are strata of the marl, which probably comes from the foundations of the inner parts of the pyramid.

In its composition the mastaba is thus similar to the filling of the approach and its other surroundings, which have been shewn to be contemporary with the building of the pyramid.

Moreover, had the mastaba been built of materials lying about at any time after the finishing of the pyramid, a great quantity of rubbish must have been included, as in the case of the dummy mastabas at Abydos (*Abydos* iii, p. 17); but this is conspicuous by its absence. Only occasional relics of the workmen were found in the shape of early weights, a copy of accounts, and also many pieces of pottery.

The pottery consisted of both the long pointed handmade vases of very rude manufacture, shallow spouted bowls, and the curious, clumsy offering pots figured in pl. xxvi, 65.

The layers of the different throws are peculiarly even, running in level lines across the mastaba. Evidently the material was not thrown in haphazard, but the work was so arranged, that it was piled up to a certain height and levelled off smoothly, after which another layer was begun on the top of that.

28. There was a curious feature about this mastaba in that the chamber was built, and the passage blocked with its plug stones, before the mastaba was heaped up, as there never had been a communication between the chamber and the outside. A short sloping passage leads upwards from the chamber, only to stop short in a small courtyard in the middle of the mastaba (see pl. xii), the chip which forms the mastaba lying over it on all sides. It therefore looks as if the owner had died early in its construction, and the piling up of his great mastaba had been the first duty of the pyramid builders. As the mastaba is placed as close as possible to the enclosure of the pyramid it was evidently of great importance.

When we reached the bottom, we found that a wide excavation had been made, in which the chamber and passages were built. The passage was roofed

with very large beams of stone set up on edge. After we had broken away a hole sufficient for a man to crawl through, we found ourselves at the north end of a long cross passage running north and south, out of the middle of which, at right angles, branched a short passage, widening into a gallery, leading to a hall of magnificent proportions, on the west side of which opened a recess, containing the red granite sarcophagus (pls. x, xii, xiii).

In our work of digging down through the mastaba we had passed the abortive tunnels of thieves, but the successful thief had plundered the tomb before its secret had been forgotten. He knew exactly the position of the chamber, and tunnelling from the south end for about twenty yards from the point nearest to the construction, he made straight for the end of the long north and south passage, which he struck unerringly, and forcing out one stone, apparently by means of a charcoal fire, he entered (pl. x). The rubbish which appears in this photograph was not there originally, but is the result of our turning over of the contents of the tunnel. We found a large quantity of charcoal against the outside of the wall at the end of the tunnel, and the stones in the immediate neighbourhood all bore clear traces of fire, being scorched pink and grey. There were also a few bricks piled up against the outside of the wall, all burnt red on the side facing the tunnel.

The robbers had forced the lid off the sarcophagus, and had rolled it back on two masons' mallets of the usual Egyptian shape. The one still under the lid was as hard as stone from the pressure and the salt with which it was saturated.

The lever with which the lid was forced off was found at the north end of the chamber; it is merely a *sont* (acacia) branch about 6 feet long and about $2\frac{1}{2}$ inches diameter, sharpened at the end to a chisel edge. Mr. Ayrton tells me this is just what was used for the same purpose in the tomb of Horemheb at Thebes.

There were two curious loose blocks of limestone in the tomb; one in the north and south passage, as it were a seat against the wall. This had doubtless been originally against the sarcophagus, like the other block now standing in that position, so that the lid could be laid upon them before sliding it on to the sarcophagus. This latter stone appeared, from the angle of the lid above it, to have been used later by the thieves as a fulcrum for the lever.

29. Unfortunately the thieves had scattered everything; all the vases (pl. xxvi, 76, 77, 79–82), except one big one, were lying in the north and south passage, between the mouth of the gallery leading to the burial chamber and the south end of the passage, where the thieves had entered.

A few black mud stoppers were found of the usual conical shape, but none of them bore any inscriptions.

At the north end of the hall we found a single large vase (xxvi, 78), several ox-bones, and four model copper axeheads (pl. xi, bottom). In front of the coffin were lying many fragments of gold foil, several copper rods and model chisels, and another piece of ox-bone.

In the south end of the hall nothing was found: evidently the ransacking and division had taken place in the north half.

In the sarcophagus all was confusion; the body had been broken up, and searched, in the part exposed by the diagonal rolling off of the lid, and among the human bones which we removed from the sarcophagus were found a portion of a breastbone, the skull, and two other pieces of bone of a large bird, perhaps a goose, and part of a skull of a much smaller bird, perhaps a pigeon. This latter was not white, as were the others, but grey.

On examining the contents of the sarcophagus we were able to extract sufficient material to shew the nature of the burial (see pl. xi). There was apparently no wooden coffin inside the sarcophagus, for although a number of pieces of wood were found lying with the body, they appeared too fragile to belong to a coffin, but were probably parts of a small box; none of the prepared pieces being over 13 inches long or $\frac{6}{10}$ inch thick. Nor does there appear to have been room in the sarcophagus for a coffin, the hollow being 6 × 2 × 2 feet, or, more exactly, 73·25 × 23·5 × 23·6 inches; yet three of the pieces were exactly of the shape and size of the later coffin tenons, and one still had the cross-grain of the box-side, in which it had been inserted, adhering to it.

30. The body was buried with wooden model insignia (see pl. xi, bottom), consisting of a mace and two crooks, of one of which only a portion remained. The sticks were apparently of cedar, and the crooks of sycomore, not bent round, but cut out of a straight board. The crook in one case was painted yellow; the other was too perished to shew any traces of colour. They were 20·8 inches—1 cubit—in length, over all. There was also with the body a wood carving of the pendent tag of the kilt, 7·3 inches long, and the knot, 4·4 inches long, with which the kilt had been represented as fastened. From the thickness of cloth

on the neck, the dead man had evidently been restored to his living shape, as had Ranefer, and he had been dressed with wooden models of the fastenings of the clothes, as had Nefermaat.

The condition of the body itself is of great interest, as although most of the wrappings had gone to dust, yet a considerable quantity remained *in situ*, strong enough to bear handling and examination. The main examples were on the left radius and ulna, which still bore wrappings to the thickness of about half an inch, and on the neck vertebrae wrappings about 1 inch thick still remained. On examination of the left radius and ulna, it was found that no particle of flesh or skin intervened anywhere between the wrappings and the bones, the linen lying directly on the bare bone. The two bones were correctly adjusted, and had been wrapped as one, the linen being so well wadded between them as absolutely to touch and to give the idea that each had been wrapped separately. There were also scraps of linen adhering in the hollows of the wrist sockets, and on the bearings of the elbow joint.

The right humerus still preserved bandages all over the joint, while the left humerus also had a quantity of thick bandages on it.

Many of the other bones also shewed clearly remains of linen adhering directly to the bone itself.

Out of 17 vertebrae found loose, 6 had clear traces of woven stuff in between the processes.

As the head still had the neck vertebrae adhering to it, it was possible to check this, and it was found that the bandages were wound round and round the bare bones, wadded between them, and completely in between the processes, to form with the bones a solid mass; thus restoring the original form to the neck (pl. xi, 4).

The backbone had evidently not been taken to pieces in order to unflesh each vertebra separately, as a twisted black-brown substance, looking like dried glue, ran through the vertebrae, no doubt the dried spinal cord. Moreover, had the backbone been taken to pieces, the wrappings would not have been merely wedged in between the vertebrae, but each vertebra would have been wrapped separately.

The sacrum also had a considerable quantity of linen remaining on the bare bone, both on the concave and convex sides, and four of its holes were still blocked up with cloth wads.

The sacrum had been taken from the backbone, and wrapped separately, for linen remained on the articular surface of its base. In some of the crevices a stain resembling a dried splash of varnish was observed, doubtless the remains of tissue imperfectly removed.

On both shoulder-blades the linen was adhering to both sides, and in the case of the left one it still remained inside the hollow of the socket.

On the right blade a small patch of varnish-like tissue was observable, to which the linen had stuck.

Both the collar-bones had wrappings adhering directly to them, and the sternum had linen on the inside and outside, as well as in each of the clavicular hollows.

Of the 40 ribs and fragments of ribs discovered :—

12	shew	linen	on	the	concave side,
12	„	„	„	convex	„ only,
16	„	no	sign	whatever.	
40					

Of the 40 bones of the hands and feet found :—

13	have	linen	inside	the	joint,
7	„	„	elsewhere,	but	not inside the joint,
20	„	no	linen	at	all on them.
40					

As we found a small fragment of compressed bandages, which shewed the marks of three fingers without any signs of the bones or joints, it is evident that the finger bones were built up again in their original arrangement, that each finger was bandaged separately, and finally that the whole reconstructed hand was bandaged as one.

One of the knee-caps had linen inside the cap, while the other shewed no trace anywhere.

The wrappings of the leg bones had fallen to powder, which made a big heap all over the bones. There was therefore nothing to be observed from them, except that they also were quite clean.

A noticeable feature was that the penis had been cut off and bandaged separately (pl. xi, 5).

We now come to the head, which presents some strange details. Skin was clearly observable, as a pale brown parchment on the cheeks, and scalp, on which last there was a considerable quantity of curly black or very dark brown hair. But the skin had been removed from the brow all round the eyes.

There was no trace of the dried-up eyes in the eye-sockets, which had been filled level with

the eyebrow by a ball of paste. This paste had been pressed into a strip of linen loosely passing over the sockets, after which the head had been bandaged in the usual way. One of these plugs from the eye-socket is shewn on pl. xi, 5, after it had been removed from the head, with the convex lump of paste upwards.

The septum of the nose had not been broken to extract the brain, yet the skull was absolutely empty. The brain can therefore only have been removed through the foramen magnum, when the head was taken off for the preparation of the body. It was bandaged separately from the backbone, for linen adhered to the condyles; the two being again adjusted before the final wrapping.

The lower jaw had been tightly bandaged round and round, the bandages passing right over the teeth, shewing that it must have been taken off and wrapped separately. It shewed no trace of flesh.

The mouth was filled with a twisted-up pad of linen, visible in front of the vertebrae in the mass, pl. xi, 4.

The skull measurements are :—

	mm.
Length, glabella	187
„ ophryon	186
Breadth, max.	141
„ bi-auricular	118
„ bi-zygomatic	123
Height	140
Basi-nasal length	99
Basi-alveolar	87
Nasi-alveolar	79
Nasal height	59
Nasal width	24
Nasion to chin	127
Jaw length	119
„ breadth at joint	121
„ breadth at base	101

Nose deflected to the left.

Orbits isolated from both brow and nose (pl. xi, 1, 2, 3).

1 molar slightly decayed.

The long-bone measurements in millimetres are :—

	Right.	Left.
Humerus	329	326 (end damaged)
Radius.	262	257
Ulna	286	281
Femur.	(broken)	466
Tibia	398	399
Fibula.	395	396

The three packages which were found in the sarcophagus were examined by Dr. Rüffer, Director of the Quarantine Dept. Alexandria, who reports the contents to be only vegetable matter. Parallel to this is his report, that the packages, which were returned to the body, generally contain only a part of the organ, the rest of the package being filled out with vegetable matter and mud.

There was no special place in the tomb for the reception of the intestines, nor were any found apart from these packages. One of the packages is shewn on pl. xi, 5.

The bones and critical examples of the wrappings are placed in the Ethnographical Department of the British Museum.

The wrappings are of fine gauze, soft and smooth as silk, measuring on the warp and woof :—

155 × 60 threads to the inch.
102 68
140 60
128 73
123 62

A few fragments of very coarse loosely woven cloth were also found in the coffin.

Samples of the bandages were submitted to Mr. Midgley of Bolton, who pronounced them all to be of flax.

No signs of a headrest were discovered.

The tomb stood open for some time after it had been rifled, as the sloughs of two snakes were left here, after their owners had cast them and gone away again.

31. The sarcophagus was of red granite, of very massive construction, with a cover of the usual early shape (pl. x, 4). The workmanship is fine; the accuracy of the flatness of the interior having an average error of not more than ·025 inch over a surface of about 6 × 2 feet, and even this variation is in large wide curves. Over the smaller area at the ends, about 2 × 2 feet, the average error drops to only ·02 inch.

The interior surface is hammer-dressed and partially polished, bearing numerous signs of working with a copper or bronze tool.

The perpendicular inner edges are drilled, while the edges between the bottom and the sides are hammered out, the angles not being sharp, but wide and rounded.

The exterior, though quite smooth, is not so carefully worked as the interior. A great chip has been knocked off one corner of the sarcophagus,

apparently in lowering it into place, as it has been cleared away.

The stones of which the chamber is built were smoothed by scraping with a flint scraper, the long sweeping marks and minute ridges being distinctly visible on examination. They had been tried by placing upon them a true surface, covered with red paint, and then smoothing off the high parts, which had been touched by the paint.

The walls (pl. x, 5) are perfectly plain and uninscribed. They shew many bad places, which have been stopped up with plaster. The stones of the walls were built up while still rough, and dressed down in place, for most of the end stones in the courses turn the corner, by about ·7 inch, shewing that this amount has been dressed off them.

The rounded corners of two of the doorways, which are an unusual feature, were also worked after the chamber was built, for the vertical guiding lines in red paint are still visible.

The two blocks of limestone standing in the tomb are hammer-dressed, none of the corners being sharp, nor do they bear signs of any cutting tool upon them.

32. The measurements of the different parts of the building (see pl. xiii), with the length of the cubit deducible from them, are as follows :—

		Inches.	Cubit length in inches.
N. and S. passage	length (without entrance)	495·4	24 × 20·64
	width	46·9 to 47·3	
	height	92·9	4½ 20·64
Short passage	distance from N. end of N. & S. passage	227·8	11 20·71
	distance from S. end of N. & S. passage	226·3	11 20·57
	length	61·9	3 20·63
	width	41·3	2 20·65
Gallery	length	145·3 to ·8	7 20·79
	width	82·4	4 20·60
	height	93·5	4½ 20·78
Hall	length N.E. wall	82·2	4 20·55
	„ S.E. „	82·5	4 20·63
	„ N.W. „	62·5	3 20·83
	„ S.W. „	61·7	3 20·57
	total length	247·0 to ·7	12 20·61
	„ width	82·3 to ·4	4 20·59
	height	197·0	9½ 20·74
Recess	length	123·2 to ·9	6 20·59
	depth	82·6 to ·7	4 × 20·65
	height	93·3 to ·7	4½ 20·78
Roofing block	length	218·0	
	height	103·6	5 20·72
	thickness	50·0	
Coffin	length, out	90·7 to ·9	
	„ in	73·2	
	breadth, out	62·4	3 20·80
	„ in	22·2	
	height, out	39·2 to ·7	
	„ in	23·5	
Coffin lid	length	91·2	
	width	56·5	
	length of ends	12·6 and ·7	
	thickness of ends	14·0 to ·3	
Two loose blocks	height	36·6 and ·8	
	breadth	20·8 and ·4	20·80 20·40
	thickness	15·1 and ·2	

On giving the longer lengths the greater value for the cubit, the average cubit is 20·67 inches; or averaging all the instances alike it is 20·67 inches likewise.

The western wall of the hall was composed of twelve courses of stone, varying in thickness from 14·0 inches to 17·2 inches. They evidently could not be exactly three-quarters of a cubit each, because they were obliged to make up the 9½ cubits, which was the height of the wall.

The survey mark (pl. vi, 23) is one of a pair, painted in red on the north wall of the courtyard surrounding the mouth of the tomb.

The bricks from the back of the false door on the eastern face of the mastaba are large and well made, the sides being flat and fairly regular. Some were measured, and they read as follows :—

15½	× 7⅜	× 5 inches
15½	7¾	4½ to 5
15⅞	7½	4⅛
16	7¾ to 8	5 to 5⅜
16¼	7¾	4⅜
16	8⅜ to 8¾	5⅛

This last is very irregular, and when turned over and measured on the other side, it reads :—

15½ × 7 × 5⅛ inches

This tapering must be due to the mould being

sloped in order to detach it the more easily in making the brick.

The size of these bricks was evidently intended to be $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{4}$ cubit.

CHAPTER VI

THE MASTABA OF NEFERMAAT.

By GERALD WAINWRIGHT.

33. In the latter part of the season we renewed the search in the already well-tunnelled mastaba of Nefermaat, and after seven weeks' work we came upon the masonry. Our search was carried out by sinking a large pit, and by branching tunnels along the surface of the rock; these ran below the 16 feet of mud, topped with sand, of which the mastaba is composed. We at last found the rock pit; it was choked with great masses of roughly squared stones, each about $5 \times 3 \times 2$ feet, and all filled up solid with mud. On reaching the bottom of the pit, we traced along the south side, expecting to find a passage leading to a chamber, as in the case of the western tombs and the mastabas of Rahotep and Ranefer. The pit was 34 feet north of the false door (see pl. iii), and a passage such as in these other tombs would bring the chamber into the usual place, just behind the false door.

But when we had tunnelled along the floor of the pit through the mud for 33 feet, we found its south-western angle, but no passage. It then became evident that we had to do with a great pit sunk in the rock (see pl. iv) with a chamber built in it, like mastaba No. 17. Upon learning this we tunnelled across the pit northward from the middle of the south side, and very shortly found smoothly laid stones above our heads.

These proved to be the floor of the tomb chamber, which was at last discovered. We were the first to enter it since it was closed on the day of the burial. Therefore presumably we ought to have found the burial of one of the greatest dignitaries of the iiird dynasty, intact; but before closing the chamber the workmen had broken up the coffin, and rifled the contents. However, on gathering up the remains, they proved to be of importance.

34. The floor of the chamber was covered with the mud which had run in from the original filling up of the well. It must have been mixed very liquid, from the even consistency, and also from the ease with which it had poured through the joints of the stone-blocked doorway into the chamber, and entered every nook and corner. Where it lay nearest to the door it was 20 inches deep.

Partly in the mud and partly sticking out of it, the skeleton was lying, on its back, with feet to the south, on a piece of board against the west wall of the tomb, dragged towards the south corner.

This board was no doubt part of the coffin, and from most of the bones lying upon it they had been preserved in place. The right tibia and foot were broken to pieces, as also the right radius. Two of the finger bones were found some distance off, by the head. The head had been dragged off, cracked to pieces, and stood up against the west wall about 2 feet away from the shoulders. The wrappings had entirely disappeared from the parts which lay above the mud, owing to the decay in air and moisture, though they remained on the under side from the surface of the mud downwards. This is the extent of the damage the body had suffered.

The wooden coffin had been smashed to pieces, and fragments were found in every direction.

The burial was a difficult one to examine because of the disappearance of the greater part of the bandages, and because of the mud in which everything was caked, and which had even penetrated in between the bones and their wrappings.

The bandages stuck much more tightly to the mud with which they were encased than to the bones, hence it was impossible to remove bone and bandages together. But as in the candlelight the magnifying glass did not shew any sign of flesh or skin, we removed samples of the wrappings, taking care to see that nothing but clean bone was left, and submitted them to Dr. Rüffer for examination, and he reports that he could find no trace of flesh or skin on any of the pieces.

The condition of the skeleton confirms this, for the mud had oozed into every cranny between the separate bones, shewing that when this occurred—at the closing of the tomb—there was no skin or flesh to stop it.

Though the right humerus was still in its place in the socket of the shoulder-blade, yet the mud had worked its way into the socket.

The left humerus was covered with mud, which shewed on the outside traces of bandages, between which and the bone no trace of animal tissue was observable. The mud on the other (outer) side of this shoulder-blade bore distinct marks of the warp and woof of the bandages.

The hollow of the chest had evidently been filled up with pads, of which we found the dust still *in situ*; but where the dust did not reach—just below the left shoulder—the mud had encased the ribs inside and out, so that the whole space between any two was full of mud, which also lay over and under them.

A piece of mud from inside the ribs still bore a piece of linen, which had been pressed in between them to a depth of ·4 or ·5 inch.

On the backbone the mud was thickly caked on to the bare bone in every crevice, especially between the processes; it had even penetrated in between many of the vertebrae.

All the holes of the sacrum were filled up flush with the mud, which was well caked on to the bare bone itself, both on the convex and concave sides.

Both the sockets in the pelvis were lined with mud, though the femora were still inserted in them. The mud was caked tightly on to these bones.

The ankle bones were completely coated with mud, and mud was found on the joints of all the toe bones observed.

The pieces of the right tibia had a row of shallow holes bored down the middle of each.

It is therefore perfectly clear that, as in the case of burial of No. 17, the body of Nefermaat had been unfleshed before wrapping. But in Nefermaat's case apparently each bone had not been wrapped separately before the final bandaging, as No. 17 had been, but the skeleton seems to have been bandaged as a whole. For there was no sign of bandages on any of the balls of the different bones, nor was there any impress of woven stuff on the mud from the sockets; though a scrap of material of the same fine quality as that of No. 17 was adhering to the mud on the right femur, and it was too fine to mark the mud with its texture.

The sacrum had not been carefully prepared, as had that of No. 17, as none of its holes had been filled up with wads of stuff; and in addition the left shoulder-blade bore, all along the lower edge of the side against the ribs, remains of woven material, just as if the bandages had been tucked in between the bone and the ribs.

The only exception to this appearance of bandaging as a whole was in the case of the clavicular hollows. These were filled with mud and had woven stuff still in them.

Another possible exception was in the case of the right femur. There the mud, which was ¼ inch thick on the bone behind the knee-joint, bore the impress of some tightly strained substance, which appeared to have been brought round from the front, in between the two condyles, and to have been met by a bandage, which had been wound round the knee.

But as the cast could not be distinctly traced between the condyles, it is quite possible that this is only the cast of the wrappings of the whole skeleton.

The spinal cord had not been removed from the backbone, as the mud did not fill the whole channel, but left an oval space, now practically empty; thus agreeing with No. 17, whose spinal cord was left.

The head was cracked in all directions, and very rotten, but it was possible to see that it had been bandaged with very fine linen of the same quality as No. 17, in a thin layer about ·1 inch thick. Between the bandages and the skull there was a thin layer of greenish brown matter, which no doubt represented skin, though no hair was visible.

The brain had apparently not been removed, for the mud inside the skull was resting on a brown matter with a rucked surface. This brown matter had gone to powder, but had left a cast of its surface on the mud.

The sockets of the eyes were quite filled with a substance retaining the appearance of eyeballs, even to the pupil. This substance was of a gritty nature.

There were no signs of the lower jaw having been bandaged separately as in No. 17.

Thus the treatment of the head was quite different from that of No. 17.

35. We now see that the pre-dynastic custom of dismemberment (*Naqada*, pp. 30–33, also found at Abydos by Mr. Dixon), to which reference is so often made in the Book of the Dead (chs. xliii B, lxiv, cx), and which still continued in the vth dynasty (*Deshasheh*, ch. v, pl. xxxvii), was practised on the princes of the iiird dynasty. The custom was applied to extended burials at Deshasheh; and here we see that Nefermaat was extended, and also the burial of No. 17, both from the length of the coffin, and from the fact of the mummy being dressed in a kilt with wooden tie.

Thus early Egypt is no exception to the widely spread custom among primitive people of skeletonizing the dead before final burial.

This custom, or *scarnitura*, as it is called in Italy, appears to have originated in Neolithic times and to have continued into the early Bronze or Copper Age. It is found in Italy, "in Sicily, Sweden, in the dolmens of Denmark, in the Long and Round Barrows of Great Britain, in the Crimea, in the

dolmens of Algeria, possibly in France, in the *kurgans* of the province of Kiev in Russia, in Switzerland, in the Nile valley, and at Palaikastro in East Crete" (Peet, *Stone and Bronze Ages in Italy*, 172; *Annual of Brit. School at Athens*, viii, 292).

It is also found in modern times among the Latookas of the Albert Nyanza country, where the decomposition of the flesh is effected by means of a primary burial for a short time, after which the bones are dug up, and cleaned, and then disposed of finally (Baker, *Albert Nyanza*, i, 209).

The custom appears to be a very general accompaniment of burial in a contracted position (cf. Peet, *Stone and Bronze Ages in Italy*, pp. 170 et seqq.).

36. Of the wooden coffin we found ample remains.
    Six pieces of curved bars of oval section up to 26 inches long, such as were found in Rahotep's chamber.
    A board shaped at the edge to fit the curve of the bars, apparently the end of the lid.
    Several pieces of board about 1 inch thick and 16 inches long, similar to the piece of board on which the skeleton lay; some rebated on the edge, and some with colour and dowel holes on the edge.
    Five pieces of large heavy planks 2 to 2½ inches thick.

The curved bars had been cut out of a much larger plank. They had not been bent, nor were they small branches of the approximate curve cut to shape; for the grain was perfectly straight and did not follow the curve. Each bore several pairs of dowel holes, and running between the members of each pair was a slot. This slot suggests that the component parts were first tied together with strips of leather or copper, the strips passing through the dowel holes and lying in the slots. After the tying a dowel was driven through each of the holes, in which the ties already were, thus pinning the parts together and firmly securing the ties. This method of joinery was usual in the 1st dynasty (*Royal Tombs*, ii, xli, 57), and is seen in many of the later coffins, such as the vth dynasty coffin from Deshasheh, No. 1402 in the Cairo Museum Guide, and the xiith dynasty coffin of Amenemhat, No. 23 in the Guide (Nos. 28091 and 2 in the Cairo Museum Catalogue).

These bars were very uniformly made, there being no appreciable difference in the diameter of five of them; the other was ·2 inch bigger. They were flattened on the convex side, so they were evidently used inside the cover, which must have presented the appearance of the granite cover of No. 17 (pl. x).

Three of the large pieces of plank were worked. One had a diagonal groove cut in it, for a cross-piece 4 inches wide and ½ inch thick, with a dowel hole ½ inch diameter for fastening the two together. Another had a large dowel driven in obliquely, and the third had a mortice cut in it 1 inch wide and more than 4 inches deep.

Other objects found were:—

A piece of board with two dowel holes, curved on top, but the curve does not fit that of the coffin bars.

A piece of wood some 4 inches wide and 2 inches thick, hollowed out, bearing a little red colour on the perfect side. It was ornamented on the end with narrow parallel ridges crossed by a smooth surface of wood.

Another piece similarly hollowed out, and similarly ornamented, but on the top; as there was only ·1 inch difference in the butt end on each of these, it looks as if they had formed part of a box, one being the cover of the other.

A fragment of the pendent end of the kilt, also in wood as No. 17.

A wooden "kherp" complete, exactly like the representations, the head being very thin. It measured 30·5 inches in length, the handle being 21 inches long and the blade 9·5 inches. The width of the blade was 2 inches, while its thickness was only ·15 inch. The diameter of the stick was ·5 inch.

A thin bent piece of wood, carefully shaped, about 10 inches long, but broken, and shewing a double curve. Originally the object must have been bent in the middle, the one end which remains being also bent inwards. It now looks like the remains of a model bow.

Between the skeleton and the skull lay the remains of the wooden pillow, broken in several pieces. The pillar was of oval section, quite straight-sided, and with no flutings on it. It had no well-defined capital, but the crescent was thickened to receive its tang. The pillar was also tenoned into the base.

There were also many chips of pottery, representing at least fifteen different vases.

The mud round the skeleton was full of scraps of charcoal.

Remains of fine cloth were found, and also a few threads of a much coarser material, both just as in No. 17; suggesting that the whole bandaged figure had had a coarser outer shroud.

From the walled-up recess in the south wall came:—

Some pieces of board about ¾ inch thick, neatly shot at the edges; evidently from some small box.

A small shield-shaped piece of wood with dowel holes in it, which apparently had been used for patching a bad place in the coffin.

A largish piece of wood, bearing a dovetail 1·7 inch wide.

And a small twist of fairly fine linen.

But no signs of embalmed organs were found, here or anywhere else.

37. The tomb chamber, as remarked above, was built at the bottom of a large pit, sunk in the rock. It was comparatively small, and did not nearly fill up its pit as did the chamber of No. 17. Neither was there any system of galleries and hall, but merely the plain chamber with a blocked passage leading away from it to the north. From the east end of the south wall opened a large recess, almost a small chamber, raised 40 inches from the ground. This had been walled up, but the top stone had been pulled out, and was lying on the ground. A curious feature of the construction was, that the floor of the whole burial chamber was laid on a foundation of mud about 3 feet thick in the bottom of the pit. Unfortunately the section in pl. iv cannot be guaranteed as regards the thickness of this mud, as it was not accurately observed. It made a very good foundation, for neither the walls nor floor had got out of position. The construction differed from that of No. 17 just as much as the plan, for the roof was composed of five overlapping courses, the top pair of which meeting in the middle formed the apex; the roof ridge running from north to south. In this respect it resembles the tomb chamber in the Meydum pyramid, and in the tombs of Rahotep and Ranefer.

It resembles No. 17 in being quite plain and uninscribed, but in masonry it is very inferior, both as regards the smoothness of the stones and the care of the stone-laying.

A stone was missing from the lowest course of the east side, and was not found in the tomb.

The measurements of the chamber, and the cubit deducible from them, are given below, but the result cannot be very exact owing to the roughness of the work.

		Inches.	Cubit length in inches.
Chamber	length	121·5	20·25
	width	80·6	20·15
Door	width	31·8	21·20
	height	83·5	20·88
Recess	width	30·4	20·26
	depth	60·9	20·30
	height	62·0	20·66
Wall	height	101·7	20·34
Roof	perpendicular height	93·5	20·77
	Average length of cubit deducible		20·54

The skew position of the pit is so strange, that it will be well to remark that its place was carefully ascertained by protracting the east face by means of a line of candles out through our tunnel into the open air. The line was then sighted back along the surface of the mastaba, and the distance of the south-east corner of the pit on the lower line was measured back on the upper line, from the mark which had been carried up to it by means of a plumb-line. The position of the walls of the pit was then laid out on the surface.

Next the axis of the mastaba was laid out true, by clearing the corners, protracting the east and west faces clear of the rubbish accumulated against the north and south faces, and by measuring the distance between them at each end; this giving the width of the mastaba. To get the axis each of these widths was halved, and each of the resulting points was sighted up on to the top of the mastaba, when the axis was staked out all down the middle of the mound. Owing to the dilapidation of the sides of the mastaba, the only definitely fixed point obtainable along the axis was that at which it was cut by a line drawn through the axis of the passage of the false door. Working on this as zero, offsets were then made to the various necessary points, which had been laid out on the surface. It had to be presumed that all four corners of the pit were right angles, as it was impossible to measure them. On pl. iii only the south half of the mastaba, that which contains the pit, is shewn.

The brick skin of the mastaba was very loosely laid, there being wide spaces between the bricks not always filled with mortar. The courses were kept very regular, although there were two sizes of bricks used. The bricks were of just the same quality and appearance as those of No. 17, though smaller.

Their measurements are :—

$9\frac{1}{4}$	× $4\frac{1}{2}$	× 3 inches	11	× $5\frac{1}{4}$	× $3\frac{1}{4}$
$9\frac{1}{4}$	$4\frac{1}{2}$	3	11	$5\frac{1}{2}$	$3\frac{1}{4}$
$9\frac{1}{4}$	5	$3\frac{1}{2}$	11	$5\frac{3}{4}$	3
$9\frac{1}{2}$	$4\frac{3}{4}$	3	12	$5\frac{1}{2}$	$3\frac{1}{4}$
$9\frac{1}{2}$	$4\frac{3}{4}$	$3\frac{1}{4}$			

38. During the course of the work we came upon various poor burials of late date, mostly of the xxiind-dynasty period. In the rubbish filling of the approach to the pyramid we found several group burials of poor xxiind-dynasty type. They were found in chambers at the bottom of deep pits. At the top of the shaft in each case was a thick layer of bones ; those examined were ox-bones, presumably the remains of the funeral sacrifices.

In exposing the pyramid face, we found burials in reed or palmstick mats. These also were proved to be of xxiind-dynasty period, by the few beads that were found with them. Two of these burials consisted only of the skull and long bones.

In this rubbish piled against the pyramid we found a little Ptah-seker figure and a broken Isis, both of xxiind-dynasty workmanship. These came from the highest part of the rubbish, just below the present surface, shewing the rubbish to have been practically as high in the xxiind dynasty as it is to-day.

In Nefermaat's mastaba we found a grave had been scooped out in the eastern side, in which was buried a woman with her head to the east. In a small chamber at right angles from the south side of this grave was a child, with whom were buried the doll, sacred eyes, green beads with blue spots on a white ground, and the Bes pot, which are figured in pl. xxviii, 135–139, and also two bracelets consisting of simple pieces of bronze wire about ·2 inch in diameter, bent round, the ends overlapping a little.

In the north end of the mastaba a similar hole had been made, in which three mummies of the Persian period were found (pl. xix, 9).

CHAPTER VII

THE GREAT WESTERN TOMBS.

By ERNEST MACKAY.

39. AT the west of the pyramid, just over two hundred yards away, are three large stone-lined tombs of the iiird dynasty, two of which, B and C in pls. xv, xvi, had been reused in the xxiind dynasty.

The three tombs are identical in design as regards their interior stonework, but the middle tomb A differs from its fellows B and C in the entrance to its passage, which is formed by a rectangular brick-lined shaft, whereas B and C are approached by a wide sloping path cut in the rock.

The entrances of the latter tombs were intended to be, or had actually been, closed by large limestone plug-blocks, exactly fitting the passages. The first plug was slipped down until it abutted against the step H (pl. xv), which prevented it from sliding into the chamber and damaging the body. Additional blocks were then slid down against this, until the passage was completely full. An illustration of one such plug-block in position, shewn by a model, will be seen in pl. xiv, 5. This was evidently considered at this period the most effectual way of sealing large tombs, for the same idea can be seen in a tomb at the S.W. corner of the pyramid (pl. ix), and in the passage of mastaba No. 17. The southernmost tomb, C, had one of its plug-blocks lying just outside the entrance of its passage in a badly battered condition, but no traces of blocks were found in or about the northern tomb B.

The middle tomb, A, seems to have been closed by filling up the shaft and passage with large irregular blocks of stone united together with rough cement. This is indicated by three large pieces of stone found adhering to the pavement of the passage, close to its mouth.

No traces of mastabas or tomb chapels were found above these tombs, though the ground was carefully searched for evidence of them. Probably superstructures were either not thought necessary, or some trouble such as a political change prevented the relatives of the dead from erecting the usual mastaba.

After the passages and chambers of all three tombs had been cleared and measured, special attention was paid to tomb A in order to learn something of its construction, and this will be dealt with first.

40. *Tomb A* (pl. xv). This grave was built in a rectangular rock-cut trench, 1020 inches long by 261 inches wide (50 × $12\frac{1}{2}$ cubits). The entrance to the passage was reached by a brick-lined well, 80 inches long and 42 inches wide at the north. The top portion of this brick-lining is 8 inches wider at the south than at the north, owing to a bulge in

the shaft on its eastern side. The thickness of the brickwork here, and on the other three sides, is 14 inches.

Inserted in the shaft on the south side, just above the stone breastwork, are five or six pieces of flat stone projecting in a diagonal line so as to form steps from E to W. These were provided for the purpose of descent as far as the top stone of the breastwork, the batter and projections of which afford excellent footholds for bare feet.

The depth of the shaft at the north to the beginning of the stone paving of the passage is 238 inches. The passage and chamber, which were empty, were measured to the tenth of an inch to test accuracy of work; but though the joints of the stonework were closely set, yet errors of half an inch and more in the construction of the chamber were frequent. To the casual eye, however, the stonework and general finish of the tomb were everything that could be desired. The walls were of four courses, and had been trimmed and squared after erection, the corners shewing a slight roundness due to this. The roofing blocks numbered six in all, and were not set at right angles to the wall, though their joints were very good.

The reason of this is perhaps due to the walls of the chamber having been finished before the roofing was lowered into position.

The measurements of this tomb and its passage are as follows:—

Passage: 194·0 inches long at top, 54·8 inches in rectangular height.
Width of passage at north end 41·3 top, 41·2 bottom.
„ „ middle 41·3 „ 41·8 „
„ „ south end 41·8 „ 41·3 „
Depth of step at H, 28·3.
Chamber: length at west, 102·2 T, 102·7 B.
Height of N.W. corner, 71·6; height of S.W. corner, 72·1.
Breadth of chamber at north, 71·8 T, 72·4 B.
Breadth of chamber at south, 71·4 T, 71·5 B.
Wall on north, 30·8 T, 31·1 B; on south, 44·8 T, 44·9 B.
Length of recess at south, 42·2 T, 41·5 B.
Width „ „ 26·6 T, 26·5 B.
Height „ „ 36·9 E, 36·5 W.
Height of chamber at N.E. corner, 73·8; S.E. corner, 73·4.

It will be noticed on the plan (pl. xv) that the passage and chamber are not laid centrally in the axis of the rock cutting, but that between the chamber and the cutting a greater space exists on the eastern side than on the west. This led us to suppose that perhaps an additional apartment, or *serdab* chamber, might have been built in here. Some of the large irregular blocks of stone which filled this space therefore were removed at E in search of this, but with negative results, after penetrating below the level of the pavement of the burial chamber (pl. xv).

These rough limestone blocks of filling were completely bedded with a thick layer of rough brown mortar. Many of them were marked in red with a sign similar to that in the graffiti 2, 3, and 4, pl. v, resembling a *dad* sign with three bars instead of the usual four.

As the greater space on the eastern side of this tomb was not explained by our cutting at E, we then cleared the face of the breastwork east of the shaft. The face of this was protected by a thick mass of large stones regularly cemented together (G), extending nearly to the end of the cutting at the north and slightly beyond the axis of the trench at the west. Rock, however, was reached here at 168 inches down, with no signs of a second shaft or passage. What the builders' idea was of putting this solid stone filling here is not easily understood, especially when we take into account that the remaining space of the cutting at the west was merely filled with sand and gravel. The exposed face of this filling, that is the western side, is smooth, shewing that it had not been disturbed in later times.

41. *Tomb B* (pl. xv). The construction of this tomb was the same as that of A, with the exception that the entrance to it was by means of a sloping pathway from the north instead of a brick-lined shaft.

The measurement of the rock cutting in which this tomb was built, from its northern side to the stone breastwork at the south, was 522 inches; its breadth from the western side to the stone walling at the east, 99 inches. The total length and width of the trench were not ascertained. It will be seen from the plan of this tomb that the same peculiar feature of a stone wall filling up the greater part of the trench exists in this tomb as well as that of A. No attempt was, however, made here to ascertain the reason, as tomb A shewed only solid filling in at the side.

The length and breadth of the passage leading to the chamber were 194·5 by 41·5 inches. The chamber measured 103·3 inches long, 71·5 inches wide, and 73·2 inches high; the recess, 41·2 inches long, 26·6 inches

broad, and 35·8 inches high. There were found in the chamber when opened three xxiind dynasty burials placed in extended positions in rough wooden coffins, set with their heads to the entrance. On one of the bodies were found a few rough green glazed cylinder beads.

42. *Tomb C* (pl. xv, and entrance xiv, bottom). This, it will be seen, is similar to tomb B, the length of the trench being the same. A stone walling was found also on the east, the distance from this to the western side of the trench being 124 inches instead of 99 inches.

The measurements of passage and chamber are as follows :—

Passage :	194·2	inches	long,	41·5	wide,	40·5 high.
Chamber :	102·8	„	„	75	„	73·6 „
Recess :	41·3	„	„	26·7	„	37·0 „

The chamber and passage contained 11 burials of the xxiind dynasty, one being that of a small child with a shell girdle round its waist. Some of the bodies were placed in rough coffins, the wood of which had badly decayed. Owing to the space in the chamber being limited, it was not found possible to place more than three burials inside it, so the remaining eight were placed in pairs up the passage.

In the recess at the south of the chamber there was placed a quantity of broken bones together with a few pieces of charcoal, possibly the remains of the original burial.

One of the plug-blocks of limestone used to seal the chamber was found just outside the mouth of the passage.

CHAPTER VIII

FAR WESTERN TOMBS.

By ERNEST MACKAY.

43. At a quarter of a mile to the west of the pyramid, a number of circular depressions in the desert surface are apparent, and are entered on Lepsius' map. A group of men were therefore set to work upon them. Many shafts leading to stone-lined tombs of the same date as the pyramid were soon opened, and altogether thirty-five chambers were measured and noted (pls. xvii, xviii).

The shafts were rectangular in shape, averaging 87 inches by 40 inches, and were from 13 to 39 feet in depth. They were cut in the loose rock, their sides being fairly true, and dressed with a narrow adze.

Some 11 feet of water-laid gravel, mixed with large pebbles, lay on the surface of the rock, and the tops of the pits therefore were very irregular in outline.

The majority of the chambers were of built stone (see model in pl. xiv, 4), and they were always placed on the southern side of the shafts.

Their average length was 104½ inches, and the width 62 inches, or 5 × 3 cubits respectively.

Only one tomb in the cemetery was found to contain an earlier burial than the secondary ones of the xxiind dynasty, and very few of the latter date were found intact. In the unrifled tombs these bodies were found lying in roughly painted wooden coffins, invariably much decayed ; the heads were generally placed to the entrance of the chamber. As is usual in burials of this date, practically nothing was placed with the dead, except that in rare instances we found necklaces of cowry shells, and very coarse glazed figures of Thoth, Bes, and Bast.

In some cases the chamber held more than one body, and additional holes were also cut in the sides of the shaft to hold more coffins, either at the bottom of the pit on the north, or above the original chamber.

In most cases the entrance of the tomb chamber was intended to have been closed by a portcullis of limestone. But this, in all but three instances, was always found standing above the tomb door on piles formed of rough blocks of stone placed one on another, mortar or cement being rarely employed.

In only three tombs, Nos. 50, 60, and 80, the portcullisses were found lowered. The first tomb, No. 50, contained an untouched burial of the late iiird or early ivth dynasty, and therefore the portcullis or slab must have been dropped at the time of burial.

The other two instances, Nos. 60 and 80, had been entered and robbed, and no trace of anything was found inside them.

It is a curious fact that though this cemetery was so extensively utilised in the xxiind dynasty, and though little or no effort would have been required to lower the portcullisses, except to knock away the stone piles beneath them, yet, with the exception of these three cases, the burials were only protected by a walling of stones and mud, built in the mouths of the short passages leading to the chambers. One other case of an early burial was found in this cemetery,

tomb No. 55; this, and No. 50, will be fully dealt with later on.

44. As mentioned before, most of the tombs were lined with blocks of stone; the joints were of fairly good workmanship. The edges of the stones were dressed before building, in order to ensure that the joints were in close union.

After the chambers had been completed, the faces of the stones were trimmed by hammer dressing; but in one instance, tomb 63, this was not done, and projecting bosses were left in the centre of each block of stone.

In two tombs, Nos. 60 and 63, it was noticed that the edges of some of the stones in the sides of the chambers had been tested with a flat plane and red ochre, as in the dressing of flat faces in the pyramids and elsewhere.

Much of the stonework was very faulty in some of the tombs, and flaws were concealed as far as possible with the aid of stucco.

The roofing consists of long blocks of limestone laid across the widths of the chambers, frequently askew. It is difficult to understand how these were placed in position, for frequently there is but three or four inches to spare between the tops of these and the surface of the rock cutting above them.

The widths of some of these, and the measurements of some of the blocks in the walls of the more finished tombs, will be found at the end of this chapter.

The floors were generally paved with roughly smoothed blocks ranging from 6 to 9 inches in thickness, and were laid down after the chambers were completed. They all rest on rock and rough mortar, and are as a rule irregular in thickness, even in the same tomb. It was evidently intended that the height of the rooms should be the same as the breadth, but in many cases the measurements vary owing to carelessness in laying the pavement.

In a few instances the pavement had been partly torn up, and also blocks removed from the walls, especially at the southern or farther end of the chambers. This could only have been done in searching for valuables or additional chambers, as none of the stone removed was taken to the surface, but was left inside the tomb. Frequently also these blocks were reused in order to wall up the entrance of a vault in the case of a xxiind-dynasty burial, proving that the destruction was done in this or a previous period. This shews that nothing of value was found in these tombs when they were first opened, and that an additional chamber or hiding place for valuables was looked for.

Also, with the exception of three cases, tombs 57, 66, and 69, there was not a single fragment of early pottery or stone vessels found in these stone-lined tombs.

The evidence from this, together with the portcullisses not having been lowered, tends to prove that though the tombs in the cemetery were certainly constructed during the building of the pyramid, or soon after it was completed, they were not used in early times except in seven cases, tombs 50, 55, 57, 60, 66, 69, 80, the last four of which are doubtful.

The probable solution of this peculiarity is, that shortly after they were built the king died, and his court left the vicinity, so that no important people remained to be buried here.

The orientation of all the tombs was practically north to south, the variations being few and very slight. Every tomb was within four degrees of the magnetic north.

The tombs in this cemetery group in six types, which are as follows:—

Type A. Plain stone chambers.
„ B. Stone chambers with recesses.
„ C. „ „ „ floor cist.
„ D. Rock chambers (pent-roofed).
„ E. Long rock-cut passage with no chamber.
„ F. Low shaft and entry by staircase.

45. Type A. *Plain Stone Chambers.* We found four examples, Nos. 62, 63, 68, 69, pl. xvii. These were all comparatively close one to another on the eastern side of the cemetery.

They all possess a rectangular room lined with stone blocks, the walls being of four courses.

Three of the tombs, Nos. 62, 63, 68, have the portcullis still raised on stones; but that in No. 69 had been lowered, and plunderers had broken away the top to gain access to the chamber. A small fragment of an early burnished red dish was found inside, and this points to the portcullis having been lowered to close a burial soon after it had been built.

Tomb 63 was peculiar owing to the portcullis being lower in this than in any other tomb, a space of only 26 inches being left between the bottom of the portcullis and the floor of the passage.

The measurements of these four tombs are as follows: No. 62, 106½ inches long, 63 inches wide, 62½ inches high. No. 63, 102 inches long, 60 inches wide, 61 inches high. No. 68, 104 inches long, 62

inches wide, 61½ inches high. No. 69, 103 inches long, 63 inches wide, 61½ inches high.

46. Type B. *Stone-lined Chambers with Recesses.* There are twenty-one tombs of this type, which is the commonest. Three examples are shewn on pl. xvii.

The average measurements of their chambers are 104½ inches long, 62 inches wide, and 61½ inches high. Each tomb has a recess in its southern wall, which was provided to hold the intestines and other organs of the dead, as was seen in the tomb of Rahotep at Meydum which Prof. Petrie opened in 1891.

These recesses vary considerably in size, the average being 33½ inches long inwards, 22 inches broad, and 29 inches high. In two cases it was found that the recesses had been destroyed in the xxiind dynasty in order to provide further room for burial purposes. The floors of these recesses are always on the same level as the pavements of the chambers.

47. Type C. *Stone-lined with Floor Cist.* There are four tombs of this type (see pl. xviii), and these all occur on the eastern side of the cemetery.

They are all of built stone and have the peculiarity of a shallow well in the S.W. corner of each chamber. In three tombs, Nos. 57, 66, and 81, this well is provided with ledges on its eastern and western sides, evidently for the purpose of holding a covering slab, which when in place was flush with the pavement.

An example of such a slab was found in the chamber of No. 66, measuring 26 inches by 22 inches, and 4½ inches thick. The edges of this were slightly inclined, the measurements being taken at the upper and widest part of the slab. A rough hole measuring 1·6 inches in diameter was found in its centre, which in contrast with the finish of the stone suggested that it had been bored at a subsequent period, with the idea of using it for some other purpose. If this was the case the boring must have been done inside the chamber. The well in which this cover fitted was 23 inches long N. to S., 22 inches E. to W., and 22 inches deep. Its ledge on the eastern side was 2¼ inches wide by 4½ inches deep, and that on the western side 2 inches wide. Thus the seat for the slab was 27 × 22. The chamber of this tomb was 108 inches long, 62½ inches wide, and 60 inches high. Two small rough offering jars were found in this (pl. xxvi, 51, 52).

The dimensions in the remaining three tombs here follow. No. 57 : chamber 103 inches long, 61½ inches wide, and 62 inches high. Well below its ledges, 19 inches N. to S., 24 inches E. to W., and 21½ inches deep. The ledge in its western side was 5¾ inches in depth and 2 inches in width. The eastern side and floor of well were destroyed. Two burnished red bowls and nine small offering pots were found inside (pl. xxvi, Nos. 43 to 50). The duplicates were not drawn.

No. 81 : chamber 104 inches long, 61½ inches wide, and 60 inches high. The well of this was 21½ inches N. to S., 22 inches E. to W., and 22½ inches deep. The eastern ledge was 3¼ inches in width by 2½ inches in depth ; the western, 2 inches in width.

No. 76 : chamber 104 inches long, 61½ inches wide, and 61½ inches high. The well of this tomb apparently never had a cover, for no ledge exists on its western side to hold one in place. It measures 22 inches N. to S., 24 inches E. to W., and was 23 inches deep. The eastern side of it was found broken away.

48. Type D. *Pent-roofed Chambers.* Tombs Nos. 50, 52, 55, 56, pl. xviii, are all of this type, cut in the soft rock, and not lined in any way. Also their passages or chambers, or both, are pent-roofed. These tombs all occur fairly close to one another on the eastern side of the cemetery ; and one of these, No. 50, contained an intact early burial.

Tomb 50. The entry to this tomb was by a square shaft, 69 inches N. to S. by 68 inches E. to W., and 252 inches deep. The passage was entered at the south, and was protected by a large limestone slab, 82 inches long by 42 inches wide, and from 14 to 16 inches thick. This was laid just against the doorway.

Close to this and north of it, within a foot of the bottom of the shaft, there was found a granite vase with imitation tubular handles, with saw-cut below ; together with fifteen limestone and one alabaster cylinder dummy offering vases (see pl. xix, 6, 7, 8 ; pl. xxiv, 11–15). On the slab being removed it was seen that the greater part of the roof had fallen in, and when this had been removed the badly crushed bones of a burial were traced on the western side of the chamber. Enough of these were in place to note that the burial was contracted, and the head placed to the north.

No further offerings were found with the exception of two pottery vessels (pl. xxiv, 10) and a bowl, which were at the southern end of the chamber, the former badly broken and pieces missing.

In the filling of the pit, about 72 inches below the surface of the desert, there was a thick layer of ox-bones.

The plan of this tomb is given on pl. xviii, but owing to the bad state of the roof and the western

and southern sides of the chamber, the measurements of these therefore must be only taken as approximate.

Tomb 52. The shaft of this was 177 inches from north to south and 47 inches from east to west, the depth being 32 feet. The entrance to the chamber was as usual at the south, leading through a short pent-roofed passage, 25½ inches long by 32 inches wide, and 66 inches high.

The chamber was but roughly cut, and appears to have never been finished. It was 104 inches long, by 79 inches at its southern and 82 at its northern end. A long vertical cut in the southern wall was noticed, made preparatory perhaps to cutting a recess. The roof had badly fallen, and it was not possible to trace its original height. A curious feature was a passage cut in the western side of the shaft, 18 inches wide and 49 inches high. This ran west for 156 inches, and then turned at right angles to the south for 436 inches, ending abruptly in nothing. On its eastern side, about half-way along, were two roughly cut chambers; and opposite these was another passage running east, but with no sign of a chamber at the end of it. No traces of burials were found in the chambers, but there can be little doubt that these and the passages are of late date, and were possibly cut in the xxiind dynasty.

Tomb 55 (pl. xviii). The shaft of this was 99 inches N. to S., 31½ inches E. to W., and 33 feet deep. At the base of this at the south was one narrow step leading down into a pent-roofed passage, 92 inches long by 24 wide, and 42 inches high, the mouth of which was walled in by mud bricks, plastered over with mud. This led to a pent-roofed chamber 98½ inches long by 78½ inches wide, and 84 inches high. Part of the roof of this had fallen in, owing to the unsatisfactory nature of the rock in which it was cut.

On the chamber being cleared of its top debris, the ground was carefully worked over in sections, and then the positions of the offerings were noted. These, however, were lying in fragments scattered over the tomb, pieces of the same vessel being found in different parts of the chamber. No trace of a body or bones was to be perceived, which is inexplicable seeing that the walling up of the entrance was quite intact. If the tomb had been robbed at a later period, the thief would not have taken the trouble again to secure the entrance, and in the case of a secondary burial, the bones of this would have been found. The chamber, which did not possess a recess, was floored with a thin layer of fine sand, and held the following articles, none of which are complete with the exception of the flint flakes. Six of these were struck from one block of flint, and are photographed (pl. xxi, 17–22) fitted together. They are of the usual Meydum type with heavy butt ends.

3 cylinder alabaster vases, pl. xix, 1, 2, 3; xxiv, 6, 8, 9.
3 fragments of two covers for same, pl. xxiv, 7.
3 alabaster dishes, pl. xxiv, 1, 2, 3.
1 alabaster cup, pl. xix, 4; xxiv, 5.
Piece of a small diorite cup.
3 bronze or copper needles.
19 flint flakes, pl. xxi, 17–22.
Pottery jug with handle, of a very thin burnished drab ware, pl. xix, 5; xxiv, 4.
Small block of sandstone (rubber for the feet?).
4 red burnished dishes, pl. xxv. 25–27.
6 rough offering saucers, pl. xxv, 20–24.
Fragments of rough pottery jar as *Medum* pl. xxxi, fig. 25.
Fragments of jar similar to *Medum* pl. xxx, fig. 11.
Fragments of pottery vase, the largest piece of which was utilised as a lamp, shewing that a floating wick was used.
Small lumps of charcoal.

Tomb 56 (pl. xviii). The shaft of this was 113 inches long by 29½ inches wide, and 34 feet deep. A pent-roofed passage, 89 inches long by 32 inches wide, and 40 inches high, led into a chamber which had a recess at its southern end. These last two, like the passage, were similarly pent-roofed. When found, the entrance to the passage was blocked by a walling of mud brick, and this secured six rough wooden coffins containing xxiind-dynasty burials, the coffins being placed in a row from E. to W., their heads being at the west. On the body nearest the entrance there was found a necklace consisting of tubular beads and two amulets—an eye, and a rough figure of Bast.

The chamber was 106½ inches long by 81 inches wide, and 96 inches high. The recess at the south of this measured 83 inches long, 58 inches wide, and 68 inches high.

49. Type E. *Long Rock-cut Passage with no Chamber.* Of this type only one example was found, tomb No. 80 (pl. xvii). A shaft 56 inches long, 50 inches wide, and 13½ feet deep, was the entrance, and at the south of this, at the bottom, a long passage ran through the rock for 154 inches at an angle of about 9° west of south. At the end of this a further bend to the west was taken of 12°, leading 243 inches, until finally the passage turned due south for another

300 inches. There were no signs of a chamber at the end of this, and no evidence of one having been attempted. The passage, which was 37 inches wide and 76 inches high, was pent-roofed, and closed at its mouth by a portcullis slightly askew.

Nothing of interest was found in this tomb with the exception of four small offering saucers (pl. xxv, 32–34). These were lying on the rock floor, just south of the portcullis. This tomb had been entered from the top of the passage in two places.

Type F. *Low Shaft and Entry by Staircase.* Tomb 83. The way into this was by a series of rough steps cut in the rock, situated on the east side of a rectangular shaft, 28 inches N. to S. and 89 inches E. to W. (pl. xvii).

The depth of these steps was 81 inches, the top of the rock here being 132 inches below the surface of the ground.

On the southern side of the shaft there was a passage 27 inches wide and 76 inches high, which led due south, terminating in a very roughly cut pit, about 15½ feet deep. The bottom of this was 72 inches long E. to W. and 60 inches wide N. to S., and contained nothing.

The southern end of the passage had suffered greatly from a big rock-fall, the roof and sides having collapsed. Its original length therefore could not be measured, or the tomb planned, with the exception of the entrance shaft and stairway.

50. In some of the better finished stone-lined tombs the widths and lengths were taken of three stones in their side walls, together with the breadths of three of the roofing blocks. The number of the latter covering each measured chamber will be found in Roman numerals immediately after the number of the tomb which is bracketed. The dimensions of some of the portcullises are also stated.

Side-wall stones. (51) 10·6 × 40·2 inches, 13·6 × 43, 32·9 × 32·5. (58) 29·9 × 21·6, 31·4 × 13·7, 63·3 × 14·3. (63) 14·4 × 25·8, 14·4 × 30·1, 15·4 × 21·2. (64) 48 × 10·9, 24·5 × 13·9, 32·7 × 13·5. (65) 44·9 × 15·2, 29·7 × 14·5, 55·5 × 14·9. (66) 21·1 × 42·6, 21·1 × 25·4, 21 × 37·9. (67) 11·3 × 43·3, 11·8 × 32·9, 11·7 × 49·8. (69) 27·2 × 15·7, 54·9 × 15·7, 39·2 × 17·7. (75) 25·5 × 15·2, 12·7 × 17·2, 26·6 × 17·2. (76) 43·9 × 23·6, 24·7 × 20·5, 29·9 × 23·2.

Roofing blocks. (51) vii, 30, 20·3, 18·2 inches. (58) vi, 16·7, 25·2, 25·9. (63) vi, 24·3, 27·8, 24·2. (64) vii, 20·3, 20·3, 30·1. (65), vii, 21·3, 26·4, 28·2. (66) vii, 24, 18, 15·2. (67) vi, 14·5, 38, 13·9. (69) vii, 15·9, 28·3, 20·3. (75) vi, 20, 32, 19·3. (76) vii, 25·4, 22·7, 24.

Portcullis slabs. (51) 68 × 51 × 20 inches. (59) 82 × 51 × 16. (60) 67 × 54 × 16. (61) 66 × 51 × 15 (62) 66 × 56 × 17. (63) 81 × 63 × 19. (64) 77 × 54 × 14·5. (65) 78 × 59 × 16·5. (66) 86 × 62 × 15. (67) 76 × 54 × 18. (68) 66 × 46 × 14. (70) 69 × 54 × 13. (71) 78 × 53 × 14. (72) 78 × 54 × 15. (76) 81 × 54 × 18. (79) 78 × 54 × 15. (81) 81·5 × 53 × 16. The heaviest, 63, contains 56 cubic feet, and weighs about 3¼ tons.

CHAPTER IX

THE NORTHERN TOMBS.

By ERNEST MACKAY.

51. THE greater part of the cemetery of Meydum lies to the north of the pyramid, and some further search was made in that part, which is detailed in this chapter.

The eastern faces of the group of small mastabas east of mastaba No. vi, were cleared early in the season in the hope of finding inscribed false doors or steles, such as occur in the later mastabas at Dendereh. Though no steles were found, yet just in front of one of the northern brick recesses in one mastaba we came upon an inscribed libation table, 25·2 inches long by 9·7 inches wide (pl. xxxi). The thickness of this in the middle is 5·6 inches, and at the ends 2·8 inches. On two of the top edges are the following inscriptions :—

SUTEN REKH MER NUT MAAT SEZEFU.
HEK HET ĀA HEQ SEBA HET KHUFU SEZEFU.

A Royal Relative, Superintendent of the New Towns, Sezefu. Ruler of the Palace, Ruler of the gate of the house of Khufu, Sezefu.

The title Superintendent of the New Towns is little known. It occurs twice in the tomb of Urarna, and once in the tomb of Meru (*Rock Tombs at Sheikh Said*, pls. iv, vi, xix). Also it appears once in the tomb of Nek-ankh at Tehneh (*Annales du Service*, vol. iii, p. 127) (now at Cambridge).

52. Many of the mastabas had several small tomb pits cut close to, and in a line with, their eastern faces. Most of these had been plundered. A burial was found intact in one pit, which measured 40 × 25½ × 24 inches deep. The body was placed in a wooden box 31·1 inches long, 18·5 inches wide, 17·6 inches deep, inside measurement. The thickness of the wood was ·8 inch.

The usual position was adopted, head to north, trunk on left side facing east, and limbs very contracted (pl. xxiii, 3). The sex has not yet been

determined, as the body was not removed from the box, but brought away intact, soaked in paraffin wax (Bristol).

In the low hillocks of marl and gravel which lie between the desert table-land and the cultivation, east of the mastaba of Nefermaat, we found a small cemetery of the iiird dynasty, and some thirty-nine graves were cleared and recorded.

These all fall naturally into four classes, which are as follows :—

Class A. Burials in rough holes ranging from 12 inches to 42 inches deep.
Class B. Square or rectangular shafts with or without recesses to hold a burial.
Class C. Multiple or family graves.
Class D. Open court provided with niches or false doors.

All the dead in the recorded graves of this cemetery were placed in a semi-contracted or contracted position, and always on the left side, with the exception of four cases in which the bodies were found lying on their backs or the right side. The orientation was nearly, though not quite, as constant. Thirty-one bodies were placed with their heads to the north or north-west, six with their heads to the east or north-east, and eight with their heads to the west. None were in the usual prehistoric direction, head to the south.

53. In the majority of the poorer graves, which were but little below the surface of the ground, the linen garments around some of the dead were in a fairly good state of preservation. In the case of the men a short kilt was the article of clothing generally found. The women were either wrapped or clothed in a garment which entirely covered the body, and were then sometimes laid upon a pad or mattress of linen material, placed on the floor of the grave.

The kilts or loin-cloths of the men were of a very coarse linen ; the clothing of the women was usually of a much finer texture.

Different samples of cloth were collected from various graves, and submitted to Mr. Midgley of Bolton for examination. His report on these will be found in the volume of *Historical Studies*.

In three graves, Nos. 123, 136, and 141, a wooden headrest was placed beneath the head. Two of these (pl. xxi, 15, 16), from graves 123 and 141, are very similar to those of later times, with the exception of a square head to the top of the shafts, just below the curved portion which fitted the head. The headrest from grave 136 (see base of pl. xxxviii) consisted only of a short bar of wood with a slight hollow along the top. Seven other burials had a brick, in lieu of a pillow, placed beneath the skull, while in four graves a brick was found lying close to the head.

54. The amount of dental caries in the teeth of some of the skulls in this cemetery was most noticeable, the molars being generally attacked. The teeth were in most cases badly worn down, and cup-shaped, owing to gritty food.

Three cases of fractured bones were found, in graves Nos. 106, 124, 131. In No. 106 was the body of an old man who had suffered a fracture of the radius and ulna of the left arm. Both bones had united, and were, in addition, ankylosed at their lower extremities.

In grave 106, also that of a man, both bones of the right forearm were found to be fractured about the middle of the shaft. Each bone had, however, united well. The cause of the fracture in both these cases was probably due to an attempt to ward off a blow from a stick.

Grave 124 contained the skeleton of a man whose right parietal bone was perforated by a small, clean, round hole, evidently the cause of death. In addition to this there was an old fracture well healed on the right frontal bone. This and the two preceding cases were the only evidences of violence noted in this cemetery.

The femur bones of a man in grave 107 were remarkably bent, the curvature being very pronounced. This might have been possibly due to rickets.

In three or four instances, in graves which lay near the surface, traces of hair were found adhering to the skulls. In every case this was slightly curly, short, and either of a light reddish or straw colour. Owing to the saline nature of the soil in the district, it might well be possible that the light coloration is due to the bleaching action of salts.

We were fortunate to find that in only two graves, out of the total of thirty-nine excavated, was there any obvious disturbance. This condition was due to the poor nature of the burials, for with the exception of the three pillows in graves 123, 136, and 141, a pottery jar lying in grave 103, a mud saucer in grave 138B, a small pottery offering dish in grave 139C, and a rough stone altar with two bone hairpins in grave 110, nothing was placed with the bodies.

55. Seven burials in the cemetery contained bodies

in wooden boxes, Nos. 103, 104, 112A, 112B, 122, 133, and 139A. These boxes or coffins were of sycomore wood, and secured at the corners with the usual tholes of hard wood (pl. xxxi). The sides and ends, as well as the bottoms, were always made of more than one piece of wood, the joints being horizontal and very much curved (pl. xxxi). Each box was carefully plastered between these joints, and a thin coating of stucco covered the case inside and out. No care was taken in fastening down the lid, which was invariably found loose. The two battens, however, which secured the planks of the cover together, generally made the lid fit fairly tightly to the box.

I give below the inside measurements of all the boxes for comparison, where it will be seen that none of them agree in size.

Grave	long	wide	deep	thick
103.	41 ins.	18·5	14	1·5 ins.
104.	33·5 „	20	17·5	1·3 „
112A.	21·5 „	22·6	10·7	·8 „
112B.	Badly decayed.			
122.	33·7 ins.	19·8	15·3	·8 „
133.	31·2 „	19·5	16·9	sides ·8 „ ends 1·0 „
139A.	Badly decayed.			

There were five graves containing burials in baskets, Nos. 105, 110, 111, 135, and 136. One grave, No. 111, held two small round baskets, about 6 inches in diameter, each containing the body of an infant. Nos. 110 and 136 were too badly decayed for measurement. The remaining two are as follows: grave 105, 29 inches long by 18 inches wide by 7 inches deep; grave 135, 19 inches long by 13 wide by 9 deep, inside.

The large baskets were rectangular in form, and made of large reeds (papyrus?) secured with a coarse twisted fibre. They all possessed loose covers of the same material.

In the majority of cases the skulls were too fragile to be removed for purposes of measurement. Those, however, we were able to measure are given below in millimetres.

Grave	Length	L. max.	B. max.	B. biaur.	B. zyg.	H. sut.	Basi-nasal
116	166	165	130	97	99	124	85
125	177	179	131	111	115	127	97
126	170	175	135	114	117	132	99
128	172	172	141	121	125	129	96
139	179	178	140	114	—	108	—
140	167	170	127	101	108	121	85

Basi-alv.	Nasi-alv.	Nasal H.	Nasal B.	F. H.	Jaw H.	Jaw M. B.	Jaw B.
80	50	38	22	91	85	94	74
99	65	45	24	100	109	110	97
95	73	52	26	122	115	118	94
—	—	—	—	—	102	110	83
—	—	—.	—	—	—	—	—
84	61	49	21	101	102	99	82

56.	(A) Rough hole.	(B) Shaft.	(B) Shaft with recess.	(C) Multiple burials.	Total.
With box.	0	1	3	3	7
With basket.	3	1	2	0	6
With pan.	0	1	0	0	1
With wooden headrest.	2	1	0	0	3
With brick headrest.	4	0	1	2	7
Brick placed by head.	0	3	1	0	4
With pottery or ornaments.	0	1	1	2	4
Head N.	10	5	9	4	28
Head N.W.	2	1	0	0	3
Head N.E.	0	0	0	3	3
Head E.	2	0	1	0	3
Head W.	1	2	2	3	8
Body on left side.	12	8	10	9	39
Body on right side.	1	0	0	0	1
Body on back.	1	0	2	0	3

57. Class A. *Burials in Rough Holes ranging from 12 inches to 42 inches deep.* The graves in this class numbered sixteen in all. They consisted of irregular holes scooped in the gravel, the average depth being about 25 inches below the surface of the ground.

In three instances, Nos. 102, 107, and 127, an

attempt had been made to improve the grave by lining the sides with loose bricks, placed on their edges. In the remaining thirteen graves no special care seems to have been taken, beyond the position of the body.

Grave 111 was specially interesting because it contained what were evidently the remains of twins. The baskets they were placed in were well made, and measured about 6 inches in diameter. The fibres of which these were constructed ran in a horizontal direction, and were secured to each other by fine linen thread.

Grave 101. Child about 14 years of age. Head at east. Body on left side facing south. Arms and legs in a contracted position. (Disturbed.)

Grave 102. 30 inches long, 17 inches wide, 18 inches deep. Adult woman. Head N. facing E., lying on a brick. Body on left side facing E. Contraction very marked, legs doubled up and lying close against body. Arms similarly contracted, hands before face. Burial wrapped in a long single (?) garment of linen. Brick lining to grave. Bricks placed on top of filling of hole to mark the burial.

Grave 106. 34 inches L. × 15 W. × 24 D. Old man. Head W. Body on left side facing N. Limbs contracted. Radius and ulna of left arm fractured. Teeth badly worn. Slight traces of a linen garment.

Grave 107. 33 inches L. × 24 W. × 21 D. Male. Head N. Body on left side facing E. Limbs contracted. Long coarse linen garment. Both femur bones very curved. Two molars badly decayed.

Grave 108. 36 inches L. × 20 W. × 24 D. Sex? Head at N.W. lying on a brick. Body on left side facing N.E. Limbs semi-contracted. Hands in front of breast. Bones enclosed in a long garment of linen. Grave roughly lined with bricks.

Grave 109. 30 inches L. × 18 W. × 18 D. Old man. Skull separated from body at E. of grave, lying on its side and facing W. Body on left side oriented N.–S. Legs very contracted. Arms laid alongside of body, hands in front of pelvis. Short kilt of very coarse linen. Traces of hair visible on skull, slightly curly, and of a reddish brown. Three molars badly decayed.

Grave 111. 39 inches L. × 20 W. × 39 D. Oriented E.S.E.–W.N.W. At E.S.E. of hole, a round reed basket with a cover containing the bones and skull of an infant. Another basket at W.N.W. containing a similar burial. The original position of the bodies could not be traced owing to the fragile state of the bones and baskets. Each infant was wrapped in cloth.

Grave 115. 33 inches L. × 30 W. × 20 D. Sex? Young. Head N. Body on left side facing E. Limbs very contracted. Hands before breast. No trace of clothing.

Grave 116. 45 inches L. × 24 W. × 42 D. Youth. Head N. resting on a brick. Body on left side facing E. Limbs contracted. Hands in front of breast. No clothing.

Grave 117. 32 inches L. × 18 W. × 12 D. Middle-aged male. Head N. Body resting on left side with face to E. Legs very bent. Left arm contracted, hand before face. Right arm lying outstretched close to body. Hair well preserved, of a curly nature and a sandy colour. No trace of cloth. Four molars badly decayed.

Grave 118. 36 inches L. × 17 W. × 24 D. Sex? Head N. Body on left side facing E. Short linen kilt. One molar slightly decayed.

Grave 119. 39 inches L. × 15 W. × 27 D. Head N. Body on right side facing W. Limbs contracted, hands before face. Brick pillow beneath head. Clothing?

Grave 126. 36 inches L. × 24 W. × 30 D. Sex? Head N.W. Body on left side facing N.E. Legs very contracted. Arms slightly bent, hands in front of breast. Clothing? see pl. xxiii, 1.

Grave 127. 50 inches L. × 18 W. × 24 D. Sex? Young. Head N., placed on a brick, and looking upwards. Body on left side facing E. Arms and legs contracted. Grave lined with bricks. Three bricks were also found on top of filling. Clothing?

Grave 136. Very rough hole containing badly decayed rectangular reed box with burial of an adult man. Head N. on wooden pillow facing E. Body lying on back. Limbs contracted, pressed close to and on top of trunk. Hand on breast. Traces of clothing.

Grave 141. Adult man. Head N. Wooden head-rest beneath skull. Body on left side facing E. Legs slightly bent. Left arm contracted, hand before face. Right arm straight, hand just below and lying close to pelvis. Long linen garment.

58. Class B. *Square or Rectangular Shafts with or without Recesses to hold a Burial.* There are twenty graves that belong to this class, sixteen of which are of oblong form, averaging 32 inches north to south, 31½ inches east to west, and 49 inches deep. The remaining four are square, and average 30 inches by 58 inches deep.

All of the shafts were well cut as far as the nature

of the soft rock or marl permitted. The tools used in trimming the sides of the pits were apparently adzes, the cutting edges of which varied in breadth from $\frac{11}{20}$ of an inch to $\frac{3}{10}$. The marks left by these were plainly discernible on the pit sides, the cut always being from top to bottom, and never from side to side. This latter fact is strongly suggestive that an adze and not a chisel was the instrument employed.

Thirteen graves were provided with a shallow recess at the bottom of the shaft to hold the burial. Ten of these were cut in the western side, one in the northern, and two in the southern side.

Of the seven cases where a recess was not cut, the body was placed in four instances (Nos. 113, 120, 123, 124) at the western portion of their pits. In two examples the burial was on the southern side of the shaft (Nos. 130, 140). Four graves in this class (Nos. 104, 105, 114, 122) had their recesses protected by a dry walling of bricks, laid lengthways upon their sides. This walling was carried well above the roof of the recess, the bricks being laid against the western side of the shaft.

There were four examples of box burials (Nos. 103, 104, 122, 133), and two of basket burials (Nos. 110, 135).

Grave 133 was especially interesting, for it shewed what importance was attached in this period to contraction. This contained the body of an old man who had first been loosely swathed in linen of fine texture, each limb being wrapped separately. Then cloths of medium texture were twisted into loose ropes, and bound around each limb, about six turns being taken; the trunk being treated in the same way. Lastly, a long piece of linen was similarly twisted up, doubled, and first carried under the knees, and then behind the neck, where it was tied. A photograph of this burial will be seen on pl. xxiii, 3, shewing the arrangement of the whole body.

Grave 124 was also peculiar, for it contained an adult man placed beneath a large oval pan of badly baked pottery. This measured 87 inches in outside circumference, and was $9\frac{3}{4}$ inches in depth inside. The thickness of the rim was 1·2 inch. There was a hole in the bottom of this, which had been roughly stopped with plaster. This method of protecting the dead is known in late pre-dynastic times, but is rare in later periods.

Grave 103. Rectangular shaft, 42 inches N.E.–S.W., 64 inches S.E.–N.W., 42 inches deep, containing a rectangular wooden box oriented E.–W. This held the body of an adult woman, placed on her left side, and lying E.–W. The head, which was at the W., had fallen to one side, and the direction it was facing was to the N. A brick pillow was found close to it. The legs were contracted, and drawn up close to the body. Two bricks were lying against the northern side of the box, and just beyond them was a short jar of very rough pottery filled with mud. No garment was found round the body, but a large pad of cloth was resting on the breast and neck.

Grave 104. Rectangular shaft, 38 inches N.–S. $37\frac{1}{2}$ inches E.–W., 90 inches deep. Recess at west of shaft, bricked up, and 38 inches long N.–S., 18 inches E.–W., and 30 inches high. This contained a box burial of an adult (sex ?), with head to N. on a brick, lying on the left side, and facing E. Limbs very contracted. The bones were enclosed by a long garment of coarse linen. An unfinished recess, 18 inches deep, was cut at the bottom and N. side of shaft (pl. xxiii, 5).

Grave 105. Rectangular shaft, $38\frac{1}{2}$ inches N.–S., 28 inches E.–W., 90 inches deep. Recess at S. side of shaft, bricked up, 30 inches from bottom, and measuring 34 inches E.–W. and 44 inches N.–S. The recess contained the body of an adult woman placed in a rectangular basket of reeds. A loose cover, also of reeds, protected its contents. Burial placed on left side facing E. and head to the N. Limbs extremely contracted. On the top of the body were placed several thick layers of coarsely woven linen, acting as a kind of coverlet.

Grave 110. Rectangular shaft, 36 inches N.–S., 28 inches E.–W., 48 inches deep. Recess at W. of pit, 36 inches N.–S., 25 inches E.–W., with body of a young girl on her left side, in a badly decayed square rush basket. Head and trunk oriented N.–S. and facing E. Legs and arms contracted, and hands before breast. Body wrapped in a coarse long linen garment. Two hairpins, one of ivory and the other of a sharpened bird's bone, were found close to the head. At N. of the recess was a rough limestone altar 13 inches long, $7\frac{1}{2}$ inches wide, $5\frac{1}{2}$ inches deep.

Grave 113. Square shaft, 31 inches N.–S. and E.–W., 55 inches deep. No recess. Adult. Head at N. Body on left side facing E. Limbs contracted, hands before face. No trace of a garment.

Grave 114. Rectangular shaft, 33 inches N.–S., $37\frac{1}{2}$ inches E.–W., 108 inches deep. Recess at W. of shaft, bricked up, 33 inches N.–S. and 22 inches E.–W. This contained an adult female with head to

N., lying on her left side, and facing E. Arms and legs contracted. Body wrapped in a long linen garment.

Grave 120. Square shaft, 30 inches N.–S. and 72 inches deep. No recess. Adult woman, placed at W. of shaft, on her left side, and facing E. Head to N. Limbs contracted, and hands before face. Long garment worn. Two molars slightly decayed.

Grave 121. Square shaft, 24 inches N.–S. and E.–W., 78 inches deep. Recess at W. of shaft, 24 inches N.–S., 15 inches E.–W., and 15 inches high. Burial of an adult man, on his left side, facing E. Head to the N. Limbs contracted, hands before face. Body wrapped in a kilt of coarse linen. Traces also of a longer garment of fine texture.

Grave 122. Rectangular shaft, 31 inches N.–S., 29½ inches E.–W., 108 inches deep. Recess bricked up, 38 inches E.–W., 31 inches N.–S., 28 inches high, at south of shaft, containing a box with the burial of a middle-aged man. Head W. Body on left side facing N. Limbs contracted, hands in front of breast. Linen garments of two textures.

Grave 123. Rectangular shaft, 29 inches N.–S., 31 inches E.–W. No recess. Adult man at W. of shaft. Head N. Body on left side facing E. Limbs contracted. Headrest placed beneath head. Slight traces of linen clothing.

Grave 124. Rectangular shaft, 37 inches N.–S., 31½ inches E.–W., 67 inches deep. No recess. Adult man with head to N. and at W. of shaft. Trunk on left side facing E. Legs and right arm contracted. Left arm lying outstretched beneath body. Two fractures in skull, one of which had healed. Teeth very badly worn. The body and head were wrapped in a rough linen cloth. The whole body was covered with a large oval pottery pan placed on bricks roughly set around the corpse (pl. xxiii, 2).

Grave 125. Rectangular shaft, 35 inches N.–S., 37 inches E.–W., 34 inches deep. Recess at W. of shaft, 35 inches N.–S., 12 inches E.–W., 18 inches deep. Burial of a man not placed squarely in recess, with head to N.N.E. Body on left side facing E.S.E. Legs contracted. Arms slightly bent, and hands in front of pelvis. Kilt around waist. Three teeth badly decayed. The lower jaw had two abscess cavities in the bone in connection with the posterior fangs of the right and left first molars. Brick placed in front of face.

Grave 128. Rectangular pit, 29 inches N.–S., 24 inches E.–W., and 30 inches deep. Recess at W. of shaft, 29 inches N.–S., 16 inches E.–W., and 21 inches high, containing burial of an adult man, head to N. and facing upwards. Body placed on its back. Legs very contracted. Arms close to sides, the hands being just below the pelvis. Kilt of fine linen wrapped around the waist. A pad of similar material placed on the breast. Hair well preserved, curly, and of a reddish brown. A large brick was put on the eastern side of the head.

Grave 129. Rectangular shaft with recess at W., with the burial of an adult woman. Head N., facing upwards. Body lying on back. Limbs very contracted, hands placed on face. Traces of a linen garment.

Grave 131. Rectangular shaft, 36 inches N.–S., 34 inches E.–W., 30 inches deep. No recess. Remains of an old man, placed at S. side of pit, and lying on left side. Head separated a few inches from body, upright, and facing N.E. Legs partially contracted, right arm bent, and hand on breast. Left arm lying close to body, and hand just below pelvis. Both bones of right forearm fractured about the middle of shaft. No trace of clothing. Brick close to head on N.

Grave 133. Rectangular shaft, 33½ inches N.–S., 25 inches E.–W., 72 inches deep. Recess at W. of shaft, 40 inches N.–S., 25 inches E.–W., 20 inches high. This contained a box holding the remains of an old man placed on his left side, facing E. Head to the N. Limbs very contracted. Body very carefully bandaged and prepared for burial. A coarse cloth was laid as a rough mattress of four thicknesses at the bottom of the box, see plate xxiii, 4.

Grave 134. Square pit, 34½ inches N.–S. by 28 inches deep. Recess at W., 34½ inches N.–S., 28 inches E.–W., 17 inches high. In the latter were placed the bones of an old woman, lying on her left side, with her head to the N., and facing E. The legs were semi-contracted, also the right arm. The left arm was lying outstretched beneath the body. The remains were enclosed by a long garment, secured at the top of the head by rolling it into a kind of ring. This was very similar to the cloth ring used on the head at the present day in carrying water-jars, etc.

Grave 135. Rectangular pit, 26 inches N.–S., 34 inches E.–W., and 39 inches deep. No recess. At the west of this was a reed basket containing the bones of a young girl, head to N. Body on left side facing E. Limbs contracted, hands before face.

Body wrapped in a single garment. Brick at N. end of grave between wall of recess and basket.

Grave 137. Rectangular shaft, 30 inches N.–S., 34 inches E.–W., 58 inches deep. Recess at north of shaft, 30 inches L. × 18 D. × 12 H. This held the body of an adult man, lying on his left side, head to the W., and facing N. Limbs semi-contracted. Kilt worn, of a very coarse texture.

Grave 140. Rectangular pit, 17 inches N.–S., 24½ inches E.–W., 27 inches deep. No recess. Young woman on S. side of shaft with head to W., and facing N. Position, on left side. Limbs contracted, and hands before face. No trace of clothing. Three decayed molars.

59. Class C. *Multiple or Family Burials.* There are three graves which fall in this class, Nos. 112, 138, 139. Each of them held more than one body. Grave 112 was peculiar because it contained the bodies of no less than three small children, as well as two youths or girls. As there was only room for one other burial in this grave, namely on the northern side of the shaft, it would appear that the parents of these children were buried elsewhere.

The courts in graves 138, 139 were very simple affairs. They were but roughly cut in the side of a mound and open to the air. Owing to their position their western sides were higher than their eastern.

In two cases a brick was placed beneath the skull, in graves 112E and 139C. In four burials the head was placed to the north and the body facing east. Three burials faced north and had the head to the west, and three faced south-east with the head to the north-east. Two box burials were found in this class, both of them being in grave 112.

Burial B in grave 138 was merely resting on the floor of the court, and was covered with bricks irregularly placed on and about the body, the whole being plastered with mud. It was the only example of its kind found in the cemetery.

The average sizes of the shafts were 33½ inches long, 31 inches wide, and 64 inches deep. The recesses in these averaged 32½ inches long by 18½ inches deep.

The pad of cloth placed under burial A in grave 138 was probably a garment. It was hemmed by turning its edges in and by overcasting with thread.

Grave 112. (A) This was a rough shaft cut in the marl, measuring 42 inches N.–S., 39 inches E.–W., and 65 inches deep. It contained the remains of a young child in a wooden box, 42 inches below the surface of the ground. The head was to the N. The body was on its left side, facing E., in a contracted position. A pad of coarse cloth was placed over the bones. Immediately below this burial was another box, very badly decayed, which held the body of a youth or girl (B), placed with the head to the west, on the left side, facing north.

Three sides of the shaft had recesses, also containing burials, on the south, east, and west. These were all about the same level, 40 inches below the surface of the ground.

That at the south (C) measured 22 inches E.–W. and 12 inches N.–S. The body in this, a young child, was on its left side, facing N. The head was to the W. A pad of cloth was placed beneath the body. Traces of a linen garment.

The eastern recess (D) was 24 inches N.–S. and 14 inches E.–W. In this was found the body of a young child, with head to N., on its left side, facing E. No trace of clothing was seen.

The recess at the west (E) measured 36 inches long N.–S. and 20 inches E.–W. This held the remains of a youth, head to N., lying on his left side, and facing E. Limbs very contracted. A brick was placed beneath the skull.

Grave 138. Open court, 82 inches N.–S., 52 inches E.–W. Entrance at the south. Rectangular shaft (A) in S.W. corner, 31 inches N.–S., 30 inches E.–W., and 72 inches deep. Recess at bottom and west of shaft, 31 inches N.–S., 19 inches E.–W., 16 inches high, containing burial of an old man. Head to N., body on left side facing E. Legs contracted. Arms slightly bent and hands before breast. Body lying on pad of cloth.

In the N.E. corner of the court there was a burial of an aged person (B), head to the W., covered over by bricks and mud plaster. This had collapsed and broken up the body. Mud saucer placed with burial.

Grave 139. Open court, 85 inches N.E.–S.W., 54 inches N.W.–S.E., entered by a short passage at the south-east, 28 inches wide. At the west of the court were three burials, two in shafts (A and B) and one in a shallow pit (C). Rectangular shaft (A) measured 29 inches N.E.–S.W., 32 inches N.W.–S.E., and 72 inches deep. At the N.W. of this was a recess for the burial, 49 inches long, by 27 inches deep, by 27 inches high. In this was placed the body of a man in a badly decayed box, with head to N.E., on left side facing S.E. Legs very con-

tracted. Right arm bent and hand before face. Left arm straight and lying beneath body. No clothing or wrappings were seen. Teeth badly decayed. (B) Rectangular shaft, 25 inches N.E.–S.W., 29 inches N.W.–S.E., 46 inches deep. No recess. Woman. Head N.E., body on left side facing S.E. Legs contracted. Right arm slightly bent, hand close to pelvis. Left arm contracted and hand before face. Burial on western side of pit. No sign of garments. (C) Shallow pit, 30 inches long N.E.–S.W., 17 inches wide N.W.–S.E., 27 inches deep. Woman. Head N.E., resting on a brick. Body on left side facing S.E. Right leg slightly bent. Left leg contracted. Right arm bent and hand on pelvis. Left arm contracted and hand before face. Small rough offering dish just below left knee. Long linen garment.

60. Class D. *Open Court provided with Niches or False Doors.* Only one grave was found belonging to this class, No. 132.

It consisted of an open court cut in the side of a mound, 97½ inches long by 62 inches wide, and entered from the south by a short passage 44½ inches long. The sides of this were plastered with mud. At the north-east of the court was a roughly cut niche, 47 inches wide by 21 inches deep. On the western side a series of niches were provided by building one thickness of brick against the marl face and leaving gaps at intervals. An uninscribed slab of limestone was also inserted in the rock at the south-west, to serve as a false door. The height of the sides, which were irregular, varied from 62 inches at the north to 36 inches at the south. This court had been utilised in the xxiind dynasty for a burial.

Forty-three inches west of the north-west corner was a shaft measuring 35 inches square and 102 inches deep. A recess was cut in the west of this, 35 inches N.–S. by 17 inches E.–W., and 18 inches high. It held the body of a young child. Head to N. and facing E. The legs were semi-contracted, but the arms and upper part of body had been disturbed.

CHAPTER X

THE SOUTHERN MOUNDS AND TOMBS.

By ERNEST MACKAY.

61. ABOUT three hundred yards to the south of the pyramid there occur three large mounds of limestone chips, roughly in a line from E. to W. along the edge of the plateau, where it falls away to the south. The surface of the easternmost mound was covered with broken early offering jars of rough make. Three trenches were cut into this at the east to see if a tomb might lie beneath the mound, but only stone chips were found, some of which bore marks of red paint. Amongst them were small pieces of very coarse linen stained with red paint, which had evidently been used for marking stone.

The western side of this mound was then tried, and a long retaining wall was exposed and cleared (pl. xxxi, B), 1248 inches long by 16 inches thick. This was built of large stone chips secured with cement; it had a smooth surface on its western side, the eastern being left rough. The height of this wall in places was 48 inches.

To the east of this, at a distance of 217½ inches in, was another wall (A), running parallel with the first, and also built of the same materials. The length was 318 inches, by 18 inches thick, and the average height 20 inches. Contrary to wall B, the eastern side of this wall was smooth, whilst the stones on the western side were left projecting.

A low brick wall was also found on the west of B, 300 inches long by 26½ inches wide. This is marked C in the plan. Apparently it once formed part of a building, but though a turn was found at the south of this, it did not continue. The height of the wall at the corner was 60 inches.

The whole mound was then trenched and pitted for traces of further walling or a tomb shaft, but nothing else was discovered.

Apparently the object of these two stone walls was to hold back the pyramid rubbish which was deposited here; but the heap of chips eventually became so high that they overflowed the walls, and then covered them completely. The desert surface beneath the southern portion of the heap is considerably lower than that of the north, the mound being situated at the top of a small valley.

No traces of walling were found in the two similar mounds west of this one; and as these were placed at the heads of small valleys, it is probable that they were also merely tip heaps which were originally intended to fill the valleys, and had been accumulated above the plateau level.

62. An examination was also made of the edge of the desert, from the pyramid southwards to the railway which crosses the desert to the Fayûm. Many tomb shafts were traced on the way, but most of these had been cleared by plunderers. From the broken

pottery left on the surface of the ground, these were dated to the ivth dynasty.

About one mile north of the railway traces of brick walls were found, which after clearing proved to be mastabas of the old kingdom, almost entirely denuded away. The southern end of one of these we cleared, there being about 9 inches of walling remaining (pl. xxxi). Three separate apartments, or chapels, were traced here, in the first of which (A) we found large masses of the painted stucco which had formerly covered its walls. Various pieces proved that this room had contained inscriptions and figures.

In apartment B were a number of fragments of red polished pottery dishes (iv to vi dynasty shapes), which had been evidently wrapped in cloth and stored here. These were all brought to the house to be drawn, but attempts to piece them together were unsuccessful (xxv, 28–30, 38–42).

In room C we found the following articles, which were probably left behind by the plunderers who entered the shaft :—

Three bronze model oars (xxi, 11–13). Peg for tying a model boat (xxi, 7). Portion of the handle of a model palanquin (xxi, 14). Model of calf in wood (xxi, 10). Small piece of stick to represent fire or a flame (xxi, 8). Fragment of a bronze dish or spoon (xxi, 9).

Nothing was found in shaft D, but the pieces of an uninscribed limestone sarcophagus were lying in a rock-cut chamber to the west. This could not be measured or removed for examination, owing to the treacherous nature of the roof, fragments of which were frequently falling. The shaft measured 107 inches N.–S., 100 inches E.–W., and was about 40 feet deep. The chamber was 175 inches long N.–S., 138 inches deep E.–W., and 60 inches high.

An attempt was also made to clear shaft E, but this had to be given up, owing to the bad condition of its sides. It measured 99 inches N.–S. and 104 inches E.–W. A poor xviii dynasty burial was found at the top of this, some blue glazed beads and a small figure of a woman in mud being all that was placed with the body.

Several of the numerous small pits that lie in the vicinity of this mastaba were opened, but they yielded nothing with the exception of one or two pottery vessels. The position of the bodies found was uniform : head to north, body in contracted position on left side facing east. These were placed in roughly cut chambers on the west sides of the shafts.

CHAPTER XI

THE POTTERY.

By FLINDERS PETRIE.

63. THE pottery found this year is of much the same types as that already published in *Medum*, pls. xxx, xxxi. But it is all certainly dated, by the positions, to the late third and early fourth dynasties.

The group pl. xxv, 1–19 was all found together below the lowest water level that we could reach, in a corner of the brick wall at the foot of the pyramid causeway. It was doubtless a foundation deposit of the building of Sneferu there, and is thus well dated. With it was a piece of a corn-grinder, as in the later deposits where corn-grinders occur from the xiith dynasty onward.

The pottery from the tombs is grouped with that of each tomb together. But, so far as possible, the order begins with the flat open forms, and proceeds to the closed-in necked forms. Those marked S are from the southern tombs, and with S′ are from a single tomb. T denotes the large south tomb of which a plan is given on pl. xxxi. The numbers 40–42, 44–48 were all from burials found cut into the chip filling of the approach : they shew that the ground there was used, like that on each side of it, for ordinary burials in the iiird–ivth dynasties. The thick, rough basins of form 65 are common at this period. They were made with the rough point in a hole in the ground, and turned round by hand wiping the body into shape. They are always very thick, of coarse mud, badly baked ; some large examples were in the chip filling of the approach, which dates them to the middle of the pyramid building. The group 68–71 is from the north tomb inside the peribolos, and is thus well dated, like the group 76–82 from the inside of the great mastaba 17.

64. The later reuse of the cemetery left many small remains. The mounted scarab, 83, in a silver ring is of the Hyksos age, but was reused later, as it was found with the scarab 84 inscribed "Amen-Ra of Letopolis." The rest of the upper part of the page, 85 to 108, is from a secondary burial in tomb 31. The group is well dated by a scarab in a ring of Amenhotep II, 91, and a scarab of Tahutmes III, 89. From the style of the objects they probably do not come later than Amenhotep II. 87 is doubtless an old scarab of the xiith dynasty,

but 85, 86, 88, 90 are all of the middle of the xviiith dynasty. The beads are thus dated, 92 to 94 blue glass, 95, 96 sard, 97 blue pottery. 98 is a bronze rivet from woodwork. The pottery 99–103 is not later than Amenhotep II, and shews the continuance of the Tahutmes III style in 100, 102, before the changes of Amenhotep III. 104 is Syrian, and probably 102 also. 106, 107 are of alabaster, and 108 a kohl pot of black serpentine. The two rings with scarabs are at Liverpool.

109 is a stone vase, probably of the vith dynasty. 110–113 are of the xviiith dynasty. 114 is a peculiarly thin vase of pale buff ware, found with the scarab 115 and the serpentine vase 116, which is certainly of the xviiith dynasty. 117–128 are of the same age.

Pl. xxviii, 129–132 yellow and black beads and scarab of the xixth dynasty. 133 is a scarab of Siamen, found with a figure of Horus with double plumes and small beads of dull green glaze, in the southern tombs. 134 is a light-blue glazed lotus cup, of which pieces were from the southern tombs. 135–139 are from the burial of a child, on the east side of the mastaba of Nefermaat: see end of chapter vi. The eye bead 135 is white with blue spots, a brown ring round them and a green wavy line; next is a plain green bead, then a blue glazed eye with lumpy black lines. 136 is of blue glaze 137 a bronze earring and a green bead, with blue spots surrounded by goldy-brown lines and white. These beads are well known, especially in the Delta where they are dated to the xxiiird dynasty (*Hyksos and Israelite Cities*, pl. xix). These give an approximate date to the Bes pot 138, and the wooden doll 139.

The pottery 140 to 164 is of the Ptolemaic or early Roman period, and comes from a site about two miles north of the pyramid. The piece of a flint knife, 165, from Meydum belongs to the iiird or ivth dynasty.

MEMPHIS

By FLINDERS PETRIE

CHAPTER XII

THE TEMPLE OF PTAH.

65. AFTER waiting during the last two years to overcome local difficulties, we were able this year to begin hiring the private land which comprises the site of the temple. Thanks to the initiative of Sheykh Muhammed Abeyd of Mitraheneh, and his active help in preparing contracts, we not only used some land this year, but we made other contracts for future years.

The fields, or plots in the wide expanse of the site, which we turned over this year, were (1) a long strip almost in the axis of the temple, (2) a plot east of the axis near the colossus, and (3) another plot north-east of that. The plots are defined to the nearest metre, by the land survey and government maps. Each plot worked was subdivided into measured lots for separate gangs of workmen. And each block of sculpture, or of foundations, uncovered in the work, was registered by its position in the lot of the gang. Thus, without any complication, an efficient register can be kept for future study, of the position of every noteworthy stone or difference of soil, step by step as found, without needing to keep a large area uncovered. Of course all sculptured fragments were removed; or if too large, and without enough detail, they were sketched and photographed. Thus they can be found again at any time if required to join later discoveries. The publication of this register in portions would be of no use; so soon as we can complete the examination of a connected area of ruin, from beneath several different properties, we can then give a plan of all the remains found, and shew their connexions.

66. The principal stages of work are illustrated on pl. xxx. The first step on taking a field is to see how many working lots it should be divided into, each gang taking a lot of about 40 or 50 feet square. These lots must be planned so that half of them can be worked at one time, heaping the earth on the other half; the dumping halves must join, two or more together, so as to hold a higher heap of earth, and the lots which are being cleared must all be contiguous, so as to allow of a drainage canal being run through them all to a suitable spot for pumping.

When the scheme of clearance has been laid out, work is begun upon the ground as seen in pl. xxx, 4. The two dump heaps have between them two lots for gangs, which have been already lowered a few inches. The smallest infringement, by cutting, or by throwing, on the next field, will make prompt trouble with the owner. We also had old boundaries claimed, which had been rectified years before by common consent; and fierce squabbles for hours, until the case was referred to the official land survey, to which appeal the disputants would never respond. It is well, if possible, to get a workman connected with the next owner, and put him to work on the boundary. On the other hand, where there was no old village squabble behind the matter, we had the smoothest of terms with our neighbours.

The deeper clearing of the lots is seen in fig. 5, where the men are getting into the mud ground, and the boys are handling sticky mud. The water level was only about 3 feet down at the time when we worked, and all below that needed to be drained. The Nile mud soil is so close, that a hole can be dug about a foot under water without becoming wet for an hour or two. So the plan is to dig quickly down in a small space, and then when water comes in connect it with the canal. Thus the ground is removed for 5 or 6 feet down, as seen in fig. 6, with a drainage canal running the whole length of the lots, to the pump at the end, thus removing about 3 feet of water. The earth in this case has been dumped along one half of the land continuously. After exhausting the open land, it was then filled up, and received the dump from the excavation of the other half. Finally the whole was levelled again for cultivation.

The last stage of clearance is for the whole of a

gang to sink a small pit in the corner of their lot, fig. 7, two men baling out the pit all day into the drainage canal at their side. This pit is cut about 6 feet deep, and then widened until sunset. The last hour of the day, we see every pit probed all over with iron rods, to about 3 feet into the earth, to feel that there are no more stones immediately below our feet. At sunset the pit is abandoned, and the water let into it. Next day another pit is dug similarly at the side of it, and the earth thrown into the previous day's pit. Thus in a week or ten days the gang of men will have sunk pits to about 12 feet beneath the surface all over their lot, and probed about 15 feet deep.

As to the sufficiency of this depth of working, we found a copper knife and a glazed hippopotamus, both of the xiith dynasty, in different places at 7 feet deep; and a pot of the ivth dynasty at 12 feet deep. The foundations of the buildings of the xviiith dynasty were reached, and the broken pieces of sculpture which had fallen to the ground were readily removed. It seems, therefore, that probing to 15 feet deep will exhaust the chances of any sculptures, even of the earliest periods.

The site has been so much exhausted for building stone in the Arab ages, that it is not likely that a complete turning over of the whole ground would repay the work. There are 50 acres in the temenos of Ptah, and the complete clearance costs about £300 to £400 an acre, so that £15,000 or £20,000 would be required to exhaust the ground. The most likely scheme is to sink pits covering about an eighth of the area; and, wherever stones are found, expand the work to clear as far as any remains continuously extend. This might cost perhaps half the amount, and spread over ten or fifteen years such a search would be practicable. Of course a thousandth of the waste of England would do the whole work in a year; unhappily it is not the wasting classes but the saving classes who pay for any useful enterprises.

67. The principal results of the work were those found along the axis of the temple, east to west. There our strip of work came down on the ruins of an axial sanctuary of Amenhotep III, built of quartzite sandstone, and another sanctuary of Amasis, of the same material and of red granite.

Of the sanctuary of Amenhotep there were several large blocks unsculptured, and two or three with only portions of figures. Two other blocks had heads of figures, of the king offering to Sekhmet, see pl. xxix, 2, 3. Of these 2 is at Boston, and 3 at Carlsberg. Of the sanctuary of Aahmes there are the quartzite blocks pl. xxxii, 4, 5, 6, which last is given in pl. xxix, 4, and the portrait larger in 5. Beside these there was also a large granite block with very shallow engraving, in bad condition, copied in xxxii, 7; this bears part of a long horizontal cartouche, with a serpent above it. The portrait of Aahmes is rare, and is probably the best that is known, as it is clearly not conventional. The shape of the under side of the nose, the form of the lips, and the pointed chin, shew that the personal detail was observed. This is at Edinburgh.

68. In the same axial excavation was a block of compact basalt, with a figure of the Hapi bull in a ceremonial, xxx, 3. Near the colossus was found the body of a seated figure about two-thirds of life-size, xxx, 2, scale 1 : 4, of Amen-mes, the inscription of which is on pl. xxxi, left side. The lower part of this figure is in the Miramar collection, see the catalogue by S. Reinisch, pp. 225–8, pl. xxvii. That base is said to have been found at Memphis, published by Brugsch in his *Monumens de l'Égypte*, and then sent from the viceregal collection to Miramar in 1855. Where the head may be, remains unknown; but the present publication of the shoulder with the fracture, may serve to connect it with a head in some other collection. Our torso describes the person as Amen-mes son of the doctor Penzerti; on the part at Miramar there is the mother's name, Any. He was devoted to Ptah, as being a Memphite; to Tahuti, as being a royal scribe; but Neith seems to have been his personal devotion, as he bears her shuttle on his breast, his shoulder, and on both knees. The amulet on the breast is enigmatic; Dr. Walker suggests that it reads Ru-ma-kher for *Makheru*, with some reference to a lion god. This torso is now at Manchester; it is to be hoped that an exchange of casts between there and Miramar will serve to enhance both parts of the figure.

Also near the colossus were found a head in basalt without a name (xxx, 1, scale 2 : 3), a torso in basalt without a name (xxix, 1, scale 1 : 3), and a damaged head of granite; these are at Brussels. Two red granite drums of columns from the same region bear figures of Ramessu II offering to Ptah; one is at Carlsberg, the other at Manchester. A small tablet from the temple, xxxix, 5, has a figure of the Syrian god Reshep, adored by a man named .....hotep (University College); and a part of a figure of a god in Syrian dress, on a tablet, is now at Brussels.

The red granite cornice of Ramessu VI, pl. xxxi,

is from the further plot north-east of the colossus. It mentions the king making monuments, and erecting a great pylon of fine stone. (Carlsberg.) These conclude the monuments from the temple of Ptah. Such completely blindfold work as going through ten feet of soil in an area of fifty acres, cannot be expected to give great returns at once; but, by steadily clearing portions of it, we may expect that some important statuary or inscriptions will occasionally well repay the continuous excavations.

CHAPTER XIII

THE PALACE.

69. WORK was continued this year upon the palace, but was cut short by the opening of the site of Ptah, as it was necessary to take advantage of the disposition of the landowners, when they were inclined to let their land. As Mr. Wainwright was occupied with the removal of the Meydum tombs, till near the end of the season, there was only Mr. Mackay to manage the Ptah site, except a part that Mr. Bushe-Fox took towards the end. It was not possible therefore to continue much work on the palace mound.

When I first went down to Memphis I started sinking great pits in the corners of the Great Court. These shewed that the walls of it, and the lattice of cross walls that supported the columns, descend for over 45 feet below the floor. As the columns shew that the walls of the court were 47 feet high, the building must have been raised to over 90 feet of vertical brick walling, of which I have seen 60 feet still standing as a complete wall face. Half of this height was buried by filling up between the cross walls of the floor, to a high-level platform. Thus the great mass of the north end of the palace was a single erection from the present field level, or even deeper than that. The southern part, however, was gradually built at different periods, as we found three or four stages of building, and some pottery of the xviiith dynasty, where we removed the floor of the old broadway. In future years all this part must be carefully dissected.

70. The fosse, separating the palace from its approach on the south, was cleared some way down, removing much of the berms which had been added to its sides. Here, on the south side, was found the massive bronze corner of a door, pl. xxxii 3, xxxiii 13. It is 18 inches wide, 17·6 high to the edge, the pivot 1·6 high and wide. The breadth of the limbs is 7·4, and the thickness 1·4 inches. The metal is ·25 thick, leaving ·9 for the wood. The cedar planking is still inside of it, fastened by bronze rivets passing through both plates. The inscription is of Psamtek II; but the surface is clearly lowered from the signs *Hor* to *nebti*, from *Hor nub* to *taui*, in the cartouche after *Ra*, and over the second cartouche. This suggests that Taharqa was the original maker, as his *Hor nub* name ends in *taui*, which is on the original face; moreover his Horus name would not project above the hawk, and the face of the bronze has not been lowered there. (Edinburgh.)

In the fosse was also found a plaster cast of the head of a young hippopotamus, xxxix, 3. It is 19 inches high, and is the largest ancient plaster casting that is known. That it was a casting from life, is seen by the mode of subsequently marking the eyes with rough cuts; if it were a modelled head the eyes would have been equally modelled. It was found turned with the smooth back up, as part of a paving of the fosse, about fifteen feet below the palace floor of Apries. (Cairo.) Also in the fosse were found two large rough blocks, of rock-crystal and of red jasper, evidently brought as material for working. (Univ. Coll. London.)

In the wall of the great building forming the south side of the fosse, which was covered by the berm, our men found some small bronze figures of Horus, in course of cutting a way through it. They left the place for me to examine, and I found more figures in position; there were in all ten of Horus, and one of Imhotep (xxxviii, 5, scale 1 : 4). I found that there had been a hole left in the wall, a foot in each dimension, open on the face. In that the figures had been placed, wrapped in cloth, and packed in earth, to within two inches of the face. Then they were plastered up, leaving the face quite smooth, and the whole was whitewashed over uniformly. They were probably for the conservation or protection of the building, and they explain many other stray groups of bronzes found in ruins. The largest Horus is of excellent work, now at Chicago; the Imhotep is at University College, London; and the other figures at minor museums.

In the palace court, just at the foot of a wall, was found the long steel sword, xxxviii, 2. Over it was the steel framing of the scabbard, here put by its side. The handle is of bone; the blade is

23·3 inches long, tang 5·8, total 29·1 inches long, and 1·9 wide at the shoulder. This is probably of the Persian age. (Cairo.)

Two more pieces of the great pylon were found, and are shewn on pl. xxxi. The upper piece with palanquins joins the scene on pl. vi, and the lower one with Tahuti joins pl. v, of *The Palace of Apries*. These have been sent to join the scenes in museums.

71. The principal discovery at the palace was at the west end of the fosse, on the southern side. There, beneath a berm which contained a late Ptolemaic coin, we found a layer of dust and rubbish, which contained the sweepings of an office that had existed in the upper part of the building above it. In this dust were dozens of clay sealings from parcels—none from papyri—mostly bearing impressions of seals, and a dozen labels of wood split very thin. As many of the seals are Persian, the whole may be dated to the vth century B.C., during the Persian occupation.

With these seals and labels were many small objects: an ivory eye for a bull's head, life-size; a piece of scale-pattern Greek pottery, like that of Defneh, vith cent.; some inlay of coloured glass; part of a mottled blue and black glazed bowl; long barrel glazed beads; a rude papyrus sceptre, and Anubis, of light blue glaze; a *Cypraea* shell with brown pattern (249); and a bronze palmetto for inlaying with glass or stone (266). The series of arrowheads shews that many different types were used together, the solid triangular head (252–4) for piercing armour, the short three-bladed ones (255–260) for face wounds, the long-blade heads (261–3) for limb wounds. One of the longest blades (261) has been bent round into a finger-ring. One of the short heads (256) still has the casting duct attached to the point; as the point and edges had to be ground sharp it was best to grind off the duct in this way. The numbers here refer to figures in the plates of the paper on glazing factories, in the volume of *Historical Studies* of this year.

72. The Aramaic labels which were found here (pl. xxxiv) are mostly made of naturally split slips of wood, so thin as to be elastic originally. Only M, which is an incised slip, is of artificially smoothed wood and thicker than the others. Each label had a small hole toward the tapering end, evidently in order to tie it on to the parcel. From the delicate thickness of the label, and the small hole for the string, it is evident that these labels were attached to small parcels of only a pound or two in weight. A heavy parcel could hardly be handled without dragging off such a label. It seems most probable therefore that they belonged to the parcels on which the seals were placed, that were found with them in the same stratum. The labels and seals are now in the Ashmolean Museum, excepting two of the clearest, C and H, which were kept at Cairo; there can be no question in the reading of these two.

The black ink upon the dark brown wood of the label does not shew clearly in a photograph; one, however, is given in the *Historical Studies* volume, fig. 267, which is label C here in the plate xxxiv.

As soon as the labels were found, and before there was any chance of deterioration, owing to a somewhat powdery surface of some of them, I drew them to double the original size; the plate shews them here of the actual size. The drawings were made with the aid of a strong magnifier, to examine the labels in different lights, repeatedly comparing them with the copy. Mr. A. Cowley of the Bodleian Library, after examining the labels and the drawings, states: "The copies are so accurate that the originals add very little to the chances of decipherment."

I have particularly to thank Mr. Cowley for bringing to bear on these labels his knowledge of Aramaic, which is so well known through his masterly work in connexion with the Aswan Papyri. I here place together Mr. Cowley's observations, first made on the copies, and later on the originals. The labels are distinguished by letters, and only the Aramaic side is considered at present. The first or second lines are marked 1 or 2 after the reference letter. A1 and C1 are the same, apparently Trmusi or Trmnsi, for which a suggestion has been made of the Aramaic for "beans," the modern Arabic *tirmés*, "lupins," but such labels could not belong to heavy goods, such as field produce. D1 is probably the same as F1, but no reading is proposed. F1 ends in *bêth*, house. M reads *Adon*, "lord," but is probably incomplete. Turning now to the second lines, C2, D2, E2, and perhaps J2, all apparently begin with the letter *beth*; and, if so, the following letters are probably names of months. In C2 we may read Pakhons; in D2 a possible spelling for Paophi (*cf. Aswan Papyri* H, 1). E2, G2, and J2 are apparently the same, and seem to read Phamenoth. The first *vau* and final *pe* are in accord with the original Egyptian form *Pen Amunhotep* for the name of the month. F2 ends in *ti*, though Pharmuthi hardly seems possible.

It is evident that very hasty writing is to be expected here, as shewn by the variants of A1 and

C1. The third and fourth letters vary considerably; the second letter seems to be a new form, and the fifth letter is very strange. All this suggests that we have Aramaic here from a different region to that of the Aramaic papyri at present known.

The demotic inscriptions have been examined by Mr. F. Ll. Griffith, who finds them very illegible, as are the Aramaic. A reads "The . . . of year 3, fourth month of verdure (Khoiah)"; C "the . . . of year 3, first month of harvest (Pakhons)." G may be somewhat similar. H shews ". . . copy? . . . 800 . . ." J2 reads "third month of verdure (Athyr), day 4 (?)."

73. The sealings are from three sources, Egyptian, Persian, and Greek. They are nearly all given in drawings pl. xxxvi, and mostly in photographs pl. xxxv. The numbering of each sealing, and the arrangement in lines, are the same in both plates; hence a few numbers are omitted on each plate, where a sealing only appears on the other. 1 is from a scarab of Sety I, upon the same block with 2, "Ptah protect Heremheb." 1 may be an older scarab, but 2 is certainly of the xxvith dynasty; it is curious to see two early names thus together. 3 is a kneeling figure (Hapi?) with the name Men-kheper-ra, probably Nekau I, the latest king with that name. 4 is "Uah-ab-ra-senb" ("the health of Apries"). 5 is "Uah-ab-ra" (Apries). On the same block was 6, "Pedu-neit-nebt-Senu" (Esneh), and a phrase concerning Tahuti. 7 reads "The servant of Bast, Hez-er-suten-apt ("the crown at the royal palace") son of Tahuti ar maat ("Tahuti doing justice," written enigmatically, with the lion for *ma*) son of Pedu . . ." 8 reads ". . . prophet of Hapi, Tahuti, and Khnumu, Pen-Amen." 9 is "Neit protect Uza-ran-her-desher." 10 reads "Zed-bast-auf." 11 is "Ptah protect Pedu . . ." 12 is "Neit protect Hor-kkebt" ("Horus in Khebt"). 13 is "Ra-mes son of Pedu h . . ." 14 is "Pedu-neit." 15 is a roughly cut group of signs. 16 is "maat-kheper." 17 is "Servant of Horus." 18, (?) 19 is Tahuti seated with a strange figure, possibly an ape. 20 is a king and Ptah (?). 21 is the most interesting of all the Egyptian seals; the name is Aahmes, and the *mes* is figured as a fox's skin with two foxes as supporters. The meaning of the sign has been told to the Greek engraver, and he has transmuted it into regular Mykenaean style.

We now reach the Persian seals. 22 is the fragmentary inscription from a cylinder with a group of dragons, which has not yet been connected together or translated. 23 is a small fragment of cuneiform inscription, apparently the same as 22. 24 is a palm tree with an ibex rampant. 25, 26, 27 are parts of groups of the king subduing dragons. 28 shews a palm tree between two bird-headed gryphons rampant (see Hayes Ward, *Seal Cylinders* 697). 29, 30, 31 are again the king subduing dragons. 32 shews two dragons only.

The Greek seals are of interest from their early date, as very few gems are known so early. 33 seems to be Athena and an owl (?) on a water plant. 34 is a gryphon looking back. 35 is a stag and a branch. 36 is very indistinct, but may be Europa on the bull with a tree behind. 37 is indistinct, and the subject may be possibly at right angles to the position here, a figure standing (?). Having only one impression, all the accidents are confused with the design. 38 is probably one of the Dioscuri with a crescent and star. 39 is a very remarkable seal, at present without parallel. It was a cylinder impressed four times over, on each of three different sealings, yielding twelve fragmentary impressions, from which the drawing is built up. The clay was over the tails of string which secured a package. The subject is that of two men holding a kid between them; the kid was a sacred animal in parts of Asia Minor. They are stretching out their hands over it, just as the eight nations of the Samnites are shewn on their coins stretching out their hands over the pig, in swearing the oath against Rome. The meaning seems to be that the men are repeating an oath of alliance over the kid. Behind one man is the conventionalised spread eagle of the Hittites, in a late form. Behind the other is a king on his throne, holding a whip, and a long-stemmed cylix. The separation of the bowl and the stem is probably accidental, as there is but one impression which shews the cup. Behind the king is a bow in its case, which is characteristic of the Euxine region, and eastward to Media. This seal is that of an alliance of the last remains of the Hittites with a king in Pontos, or some region near that; the design is apparently unique in its character and subject. It was doubtless affixed to the packets of some export which was a state monopoly, such as the Sandaraca or Realgar, red sulphide of arsenic, from the state mine described by Strabo (XII, iii, 40) at Pompeiopolis in Paphlagonia. This mineral is found imported into Egypt.

74. Pl. xxxvii. In connexion with the palace seals we may describe others on pl. xxxvii; the numbers on this plate continue from the previous,

so that the number of the seal defines it. First we may note 40, a copper adze which was in the hands of a Gizeh dealer early in the season, and is not likely to have come from Meydum, although bearing the name of Snefru. It is of nearly the same form as the adze found in the tomb of Rahotep (*Medum*, xxix, 11). It belonged to a man named Mer-hez-Sneferu, "loving the crown of Sneferu," who was a *shem su*, a squire, or shield-bearing follower, as shewn by the shield and the determinative of legs walking. (University College, London.)

41 is a black-clay seal from a papyrus, found in the western part of the city. It reads "*Khufu*, *Horus Neb*..., *Khnumu-Khu(f)*." Now the Horus name of Khufu was *Mezer*, and not *Neb*...; hence this name *Neb*... must belong to Khnumu-Khuf. This strongly shews that Khufu and Khnumu-Khuf were distinct persons. And with this agrees there being two separate tablets in Sinai (L.D. ii, 2), two separate cartouches together on the tomb of Khemten (L.D. ii, 26), and different cartouches in the same tomb of the vth dynasty (L.D. ii, 50).

42, a seal found loose in the palace, reading "Servant of Neit, Er-shenu-un-nofer son of Zed-bast-u-ankh." See 268 in *Historical Studies*.

43, a seal found upon a papyrus document in demotic, which Mr. Griffith would date to Darius, or not before Amasis (see 270). The official title *mer sahu*, keeper of the seal, is known in connexion with tombs in the demotic period, so it does not imply that the king was living at the time of the seal being used. And this prayer "Seher-ab-ra protect the keeper of the seal, Psamtek," is like that offered to gods on other seals (2, 9, 11, 12). It seems therefore that this belonged to the keeper of the tomb of king Seher-ab-ra. The document, and another, relate to a sale of land by a certain Harmakhri, and they are despatched by the keeper of the seal Psamtek. The land was 104 aruras, in a village in the nome of Herakleopolis. 44 is the seal from the other document found with that just named (see 269 in *Historical Studies*). It reads *Ptah-hotep-her*, with two ankhs.

45 is a limestone stamp or seal. It bears captives of the three subject races, Syrian, Libyan, and Negro, with *sss* and a tortoise. On the back a gazelle bound, and a uraeus.

46 was found about the palace; it is from a papyrus. The main figure is one that does not occur in Mr. Hayes Ward's great work on *Seal Cylinders*. It combines the man, bull, bird, and scorpion; the nearest parallel is in the book of Revelation, ch. ix: "On their heads were crowns like gold, and their faces were as the faces of men. And they had hair as the hair of women, . . . and the sound of their wings was as the sound of chariots. . . . And they had tails like unto scorpions, . . . and the heads of the horses were as the heads of lions," in this case as the head of a bull. The other figure is well known in archaic Greek art (as on the bronze plaque from Olympia), the winged female holding lions by the legs, called by Michaelis the "Asiatic nature-goddess." In this case the animals are dragons, and the goddess's wing ends in a dragon's head. The lotus border below points to this seal having been engraved in Egypt, though it might perhaps be derived from the Assyrian lotus borders.

47 is a badly cut seal of Ra-nefer-ab, Psamtek II. 48 shews Ptah and another figure very roughly done. 49 reads *Hor-pa-sa*, Horus the son (of Isis).

50 is a most interesting seal of the Jonah or Jason type. It is absolutely dated, as it is impressed four times upon the back of a rough pottery stamp, the subject of which is a cartouche of Amasis, dated therefore between 570 and 526 B.C. As an example of vith-century Greek gem engraving, it is perhaps the earliest dated stage of the classical school. The minuteness of the work is surprising, the drawing here being nearly three times the original diameter. The subject is that of a man emerging from a sea-monster, and resting his elbow upon the level of the land. This is of course most familiar to us in the story of Jonah; and the same idea is seen on the Greek vase with the sea-monster ejecting Jason (Vatican), though the incident does not occur in Greek literature, and can only be identified by the name on the vase. There is a large group of subjects of the sea-monster, attacked by Herakles, Perseus, or Marduk, or befriending man as Arion or Melkart, or Melicertes. On the whole cycle of these, and the fish as the emblem of Hades, see Hans Schmidt, *Jona*, 1907. So far as our seal is concerned, there are only the Jonah and the Jason stories to account for it, as there is no other instance of the man issuing from the monster.

The name Jonah, or "the dove," seems a curious one to be borne by a man. The prophet belonged to Galilee, as he was of Gath-hepher (2 Kings xiv 25), which is identified with El Meshed, three miles north-east of Nazareth, where the tomb of Jonah is honoured. Now in the Northern Kingdom the dove was a sacred emblem, as in the Talmud,—"By

Cuthites we are to understand Samaritans, whose idol was the image of a dove . . . (see *Chulin* fol. 6A)" (Hershon, *Treasures of the Talmud*, p. 188); hence it was natural for "the dove" to be a religious name. How far this is linked with the earlier dove worship in Cyprus, the emblem of a dove for the Holy Spirit in primitive Christianity, and the present Syrian worship of El-Tauz—the bird, is beyond our present subject.

CHAPTER XIV

THE HOUSES AND SMALL REMAINS.

75. THE minor objects found in the work at Memphis will be here described in the order of the plates.

Pl. xxxiii, 1. A small capital in limestone, scale 1 : 3, thin, alike on two opposite sides, probably belonging to a balustrade. (Univ. Coll.)

2 to 11. Lamps of new types, which will be included in the account of the burnt houses. Scale 1 : 3.

12. Leaden model dish with design of animals, and base ring below, both sides struck from dies, scale 5 : 3. Other leaden model trays were discovered before (*Palace of Apries*, xv), which were thought to be only toys; but the fine work of this dish, struck from dies, points to its being a pattern. Probably such lead models were made for the silversmiths to carry with them, both for taking orders and for scaling out their work. The style of this is more Persian than Greek, the lions and gryphons being quite Oriental. It therefore probably dates about 400 B.C. (Cairo.) 13 has been described, sect. 70.

14 is a limestone head-rest of the usual outline, but with a small shrine cut in the side of it. This was doubtless to contain an image of a god, in order to guide the dreams of the sleeper. (Univ. Coll.) Such a custom of putting an amulet under the pillow is still followed in Upper Egypt, as my friend Mr. Somers Clarke has observed.

15 is a false door (scale 1 : 6) of good work, but probably Ptolemaic. (Rochdale.) A larger one, broken up, was found at the south side of the great burnt house, south of the pottery kilns. On the northern side of that house we found, lying on the ground-level, many bronze corners of shutters, both hinges and fore-corners, with the bushes for the pivots to work in, and a bronze bolt. (Carlsberg, Manchester, Rochdale, Brighton, and Boston.) These had fallen out in the burning of the house, which must have been an immense conflagration. All of the walls have been denuded away, and some weeks of work here only disclosed the solid block of raised basement, and the flight of stone steps for access to the house itself.

Pl. xxxvii. The upper objects on this plate have been described in sect. 74. The black pottery of the lower part of the plate was all found together, as a heap of fragments from a factory north-east of the glazing kilns. Nothing was complete, but by sorting all the pieces I could restore the forms given here. The ware is thin, hard, black or dark bistre brown, occasionally orange where air has been admitted in firing. It is probably early Roman by the style, but none was found in the burnt houses of 50 A.D. The influence of leather work is seen upon 56, and in some other details.

76. Pl. xxxviii, 1. The iron crowbar (scale 1 : 5) was found on the north-eastern side of the city, close to the cultivation, and so far below the field-level that it is probably of the Roman age. The iron splitting wedge was in the bottom of the fosse, left behind when the palace was quarried for stone. (Univ. Coll.) 2 has been described, sect. 70.

3 are gold earrings (scale 5 : 3), found with another pair in a broken jar-neck, on the floor of a house which had been heaped over with wasters from the glazing kilns. Their date is probably late Ptolemaic, and they shew how skilfully granulated work was done then. (Manchester 2, Liverpool, New York.)

4 is a necklace of red coral and hollow gold beads, with three hollow gold earrings. The thin gold is backed with plaster. It is seldom so much coral is found. This was to the east of the Proteus temple. (Univ. Coll.) 5 has been described, sect. 70.

6 is a trial piece of a model in limestone, to practise the details of windows and openings used in a fort. Compare the piece of a fort model in *Memphis I*, xxxiii. (Univ. Coll.)

Pl. xxxix, 1 is a small cubical altar (scale 2 : 3) with figures of a uraeus and a vulture; inscription Neiphor . . .; a palm tree; and a bust of Bes, or a warrior, with palm branches. (Ashmolean.)

2 are examples of grinders made of quartzite, for grinding out stone vases; a large quantity was found by a native digger, evidently from a factory; the best set is at University College, and others in five museums. 3 is described already, sect. 70.

4, small alabaster vases in course of manufacture. 1, 2, 4, 5, 6, 7 have all been drilled too deeply; 3 was split; 8 was for a compound vase like 14; 9 to 13

are all solid pieces, shewing how the block was roughed out to begin with, and ground into shape, before drilling out. Allotted like the grinders, which were for much larger vases.

15 is a head-rest of a plain bit of log flattened below and above, from Meydum. 5 is described, sect. 68.

77. Pl. xl. Three burnt houses in the eastern part of the city were carefully cleared, removing only the burnt earth, so that everything that we found had been in use at the same period in the house. In each house coins were found; these were late Ptolemaic in all three houses, with coins of Claudius (41–54 A.D.) in B and C, and a coin much worn and decayed, but probably of Tiberius, in A. As the enormous coinage of Nero, which was begun in his 3rd year, 57 A.D., and culminated in his 12th year, 66 A.D., was totally absent here, it is very unlikely that any of these houses can be as late as 60 or 70. About 50 A.D., within a few years either way, seems the probable date; and if we seek for any reason why three large houses were burnt, at some distance apart, at the same period, we might look to the Jewish riots soon after the accession of Nero, about 55 A.D.

78. The lamps will be taken as a whole later on. The house B contained the following objects: 8 green glazed bird, 9 bronze jug-handle, 10 bronze arm holding *ankh*, 11 cat's head, 12 bronze lamp, 13 Agathodaimon with serpent tail, 14–15 Apis heads, 16 pottery draughtsman, 17–18 bronze arrowheads, 19 cock-head handle, 20, 22 bronze nails, 21 pottery rings, 23 green *uza* eye, 24 bronze fish-hook, 25 Bes pendant, 26 piece of pottery strainer imitating metal, 27 cup, 30 head of Isis, 31 head of Horus, 32 jar-neck, 33 limestone block with foot, and the pottery in pl. xli, 29–50. (Carlsberg.)

House A contained: 34 bust of Horus, 37 painted pottery, 38 cat and head, 39 Horus seated, 40 head of Horus, 41, 42 painted pottery, 43 Murex shell, 44 camel head, 45 painted pottery, 46, 47, 48 jar-necks, and the pottery pl. xli, 1–28. (Brussels.)

House C contained: 49 side of mortarium EDVC. LVP . . . . GRA . . CA, 52 horse, 53 head of Horus, 54 hollow bronze ring, cast *cire perdue* but without any visible neck for the core, 55 cat's head, 56 head of Isis, 57 warrior running to left, high relief in blue-green glaze, 58, 59 painted pottery, 62 painted pottery brown on red, perhaps Nubian, 63 lamp cover of pottery, 64 painted pottery. There was no plain pottery with this group. (Munich.)

79. We shall now deal with the whole of the pottery lamp types found (1) in houses A, B, C; (2) in the heaps of furnace waste and grit, high up to the south of the "late wall" in Kom el Qalama (*Memphis I*, pl. i), attributed to late Ptolemaic age; and (3) with a very large Samian dish of the first century A.D. These independent evidences of age—in three houses by coins, in waste heaps by glazed pottery, and by Samian ware—serve to fix the age of some dozens of types of lamps; these will, in turn, also fix the types which are closely similar. In *Roman Ehnasya*, 1905, I published a thousand types of pottery lamps, which in the rougher classes is a sufficient *corpus* for defining other specimens. Each class has a letter assigned to it, and each type has a number in its class. Here we shall refer all lamps to that *corpus*. The numbers preceding the letter are those on pl. xl. The numbers in thick type are new forms here published.

A	B	C	Heaps.	Samian.
		A40	...	
		50,A70	A89	
	5,A90	A92	...	
...	...	...	B18	
B93	...	...	B83–93	
B94–6	...	...	...	
...	29,D**2**	...	...	
...	3,D28	...	...	
...	2,D92	...	...	
...	E19	...	E24	E25
E82	1,E69	...	E84	
F37	4,F34	...	...	
(xxxiii, 6)	...	...	...	
35,J**44**	...	...	...	
J53	...	J54	...	
J54	J63	J60	J63	
J90	J92	J88	...	
...	...	K10	L55	L67
...	P25	...	O88	(handle
...	P28	...	P33	as V, 10)
P70	6,P40	P70	...	
P77	P56	...	...	
P86	...	...	...	
R16	...	...	...	R8
36,Rm	...	51,S43	S43	
	7,T**12**	61,U**46**		pot as
		60,W79		xli,11.

The new forms shewn on pl. xxxiii are 4,D**91**; 2,K**26**; 7,S**41**; 11,S**42**; 8,U**2**. The variants of old forms are 9,B93; 10,B94; 3,D1; 5,H6; 6,F37.

In the plate of pottery, xli, those marked BLUE 14, 15, 29, and GREEN 36, are of glazed ware. 15 is a solid mass, either a capital or a stand. One jar-handle with *Apolonida*, 17, serves to give a date for the late thick circular handle. 11 and 12 are the commonest type, of which these are the extreme varieties with forty others between them. 46 is a wide strainer. 50 is of polished black Greek pottery.

51–53 are probably of the xxvith dynasty; they were found at the side of the stepped wall, see *Palace of Apries*, x bottom, xii bottom. 54 is of the xxvith dynasty (*Defenneh*, xxxiv, 19, 20). 55 is of the xviiith dynasty, copying a wreath with red tips to the leaves; it was below the stepped wall. 56 is from parts of a thick black polished bowl found in the town, probably Ptolemaic. 57 is from parts of a rough red vase with imitations of metal handles, found in working close to the north-west of the palace.

80. The terra-cotta heads were seldom found in the work of this year, as we were not excavating in the foreign quarter from which they come; but I secured all that I could of those found by the natives. The numbers here on pls. xlii to xlvi are continuous from those previously published in *Memphis I* and *II*.

133–5 are apparently Egyptians; 134 and 135 are of limestone, very few Egyptian heads being found in pottery. 136–8 are Scythians; the varied physiognomy of the Scythian heads is of importance, as shewing the different races who were similar in their dress and life. 139 is Sumerian, and probably 141 to 145 also. 140 is an Indian, similar to that found before (36), as seen by the wreath, the position of the arms, the large amulet, and the deep umbilical line.

146 is a limestone head of the Herakles type. 147–150 are of usual Greek types. 151–2 have the rounded face and heavy jaw of the Pergamenes. 153–4 are of the Mausolos type.

155–162 are of the usual Greek type. 163 gives an indication of the meaning of these figures bearing jars. Upon the jar, retrograde, is ***HP*** above and ***ΔI*** below, probably referring to Hera and Dios (Zeus), and shewing that this represents a jar-bearer in a festival of those gods. 164 is a limestone head, with a veil like that of Arsinoe Philadelphos. 166–7 are of the same type, not identified elsewhere. 168 is a very peculiar and forcible type; the heavy circular earring should help to identify the source. 169–171 are examples of how work decayed later, reducing the hair to a geometrical pattern.

The remaining heads, 172–188, cannot at present be identified, owing to the lack of any collection of ancient portraiture. Most of them are so distinctive that their connexion would be easily settled if we had the material for comparison.

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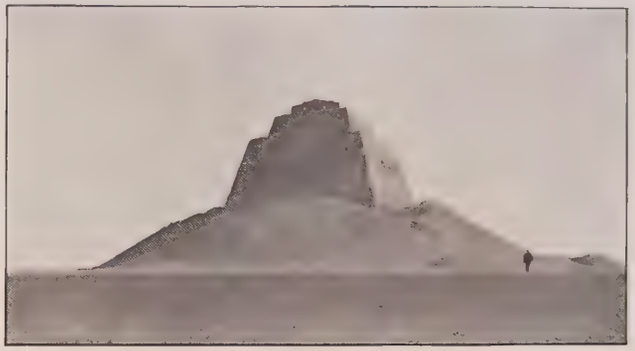
3 SECTION OF FILLED UP APPROACH, A—B.



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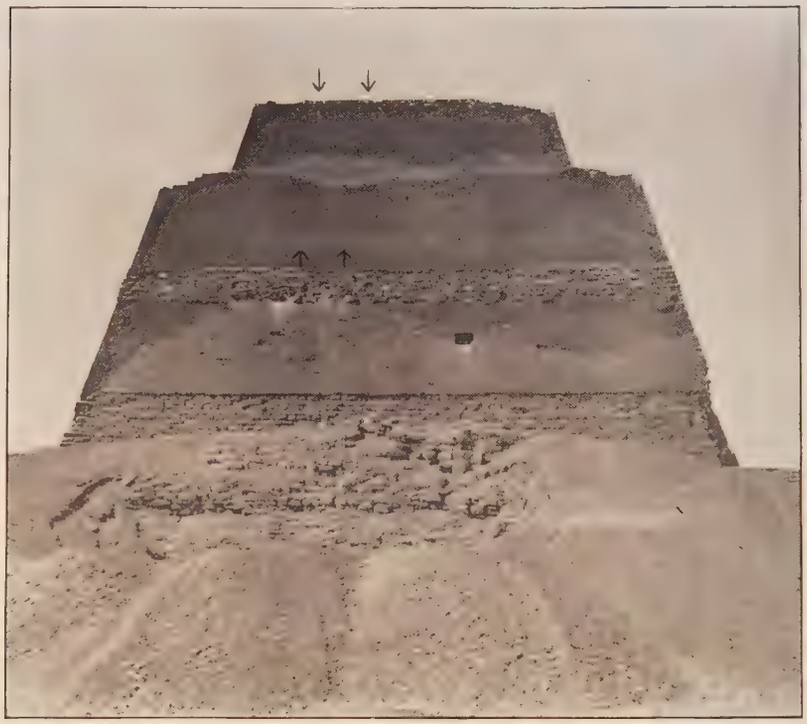
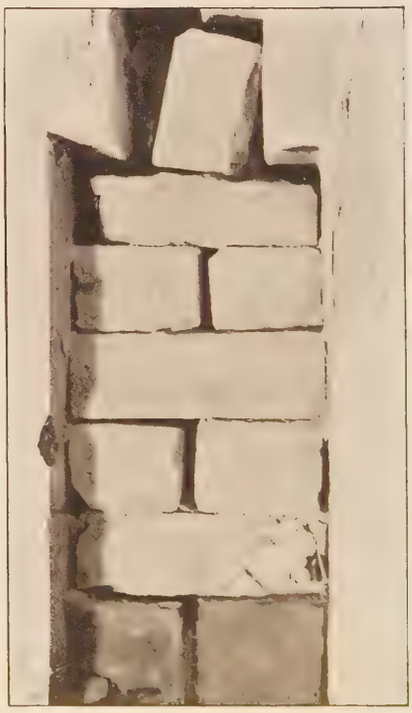


2 GROOVE ON EAST FACE OF PYRAMID.

4 WEST END OF FILLED UP APPROACH.



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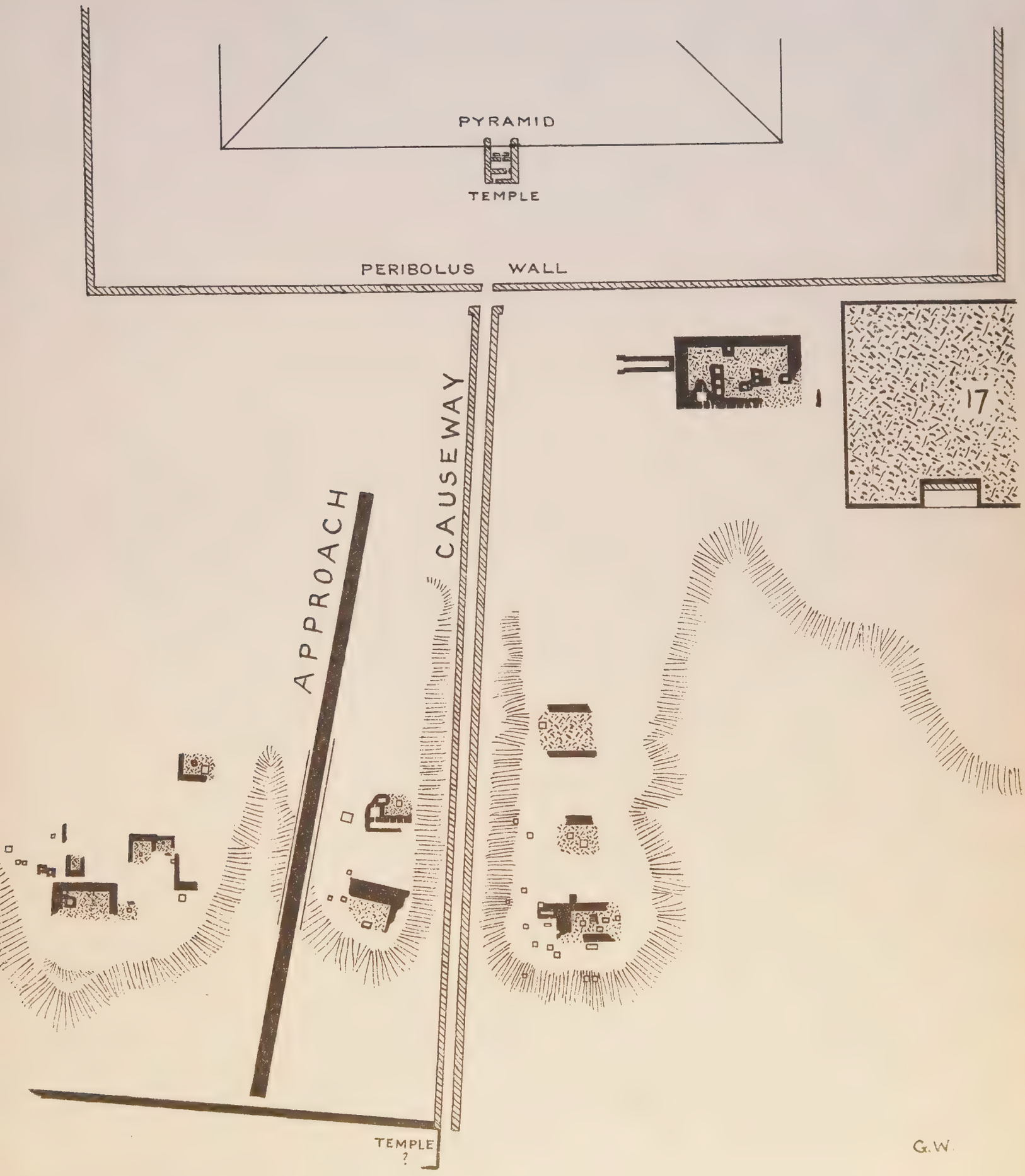
PYRAMID
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17
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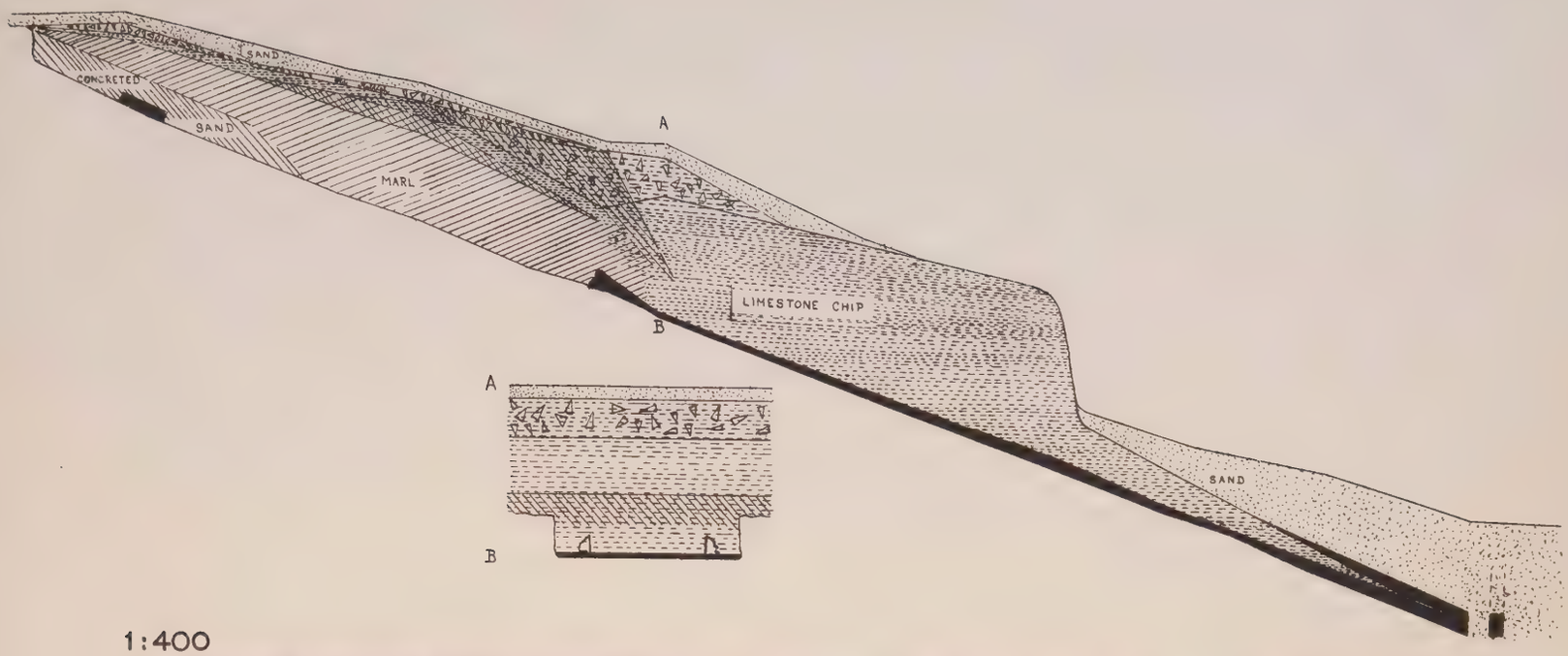

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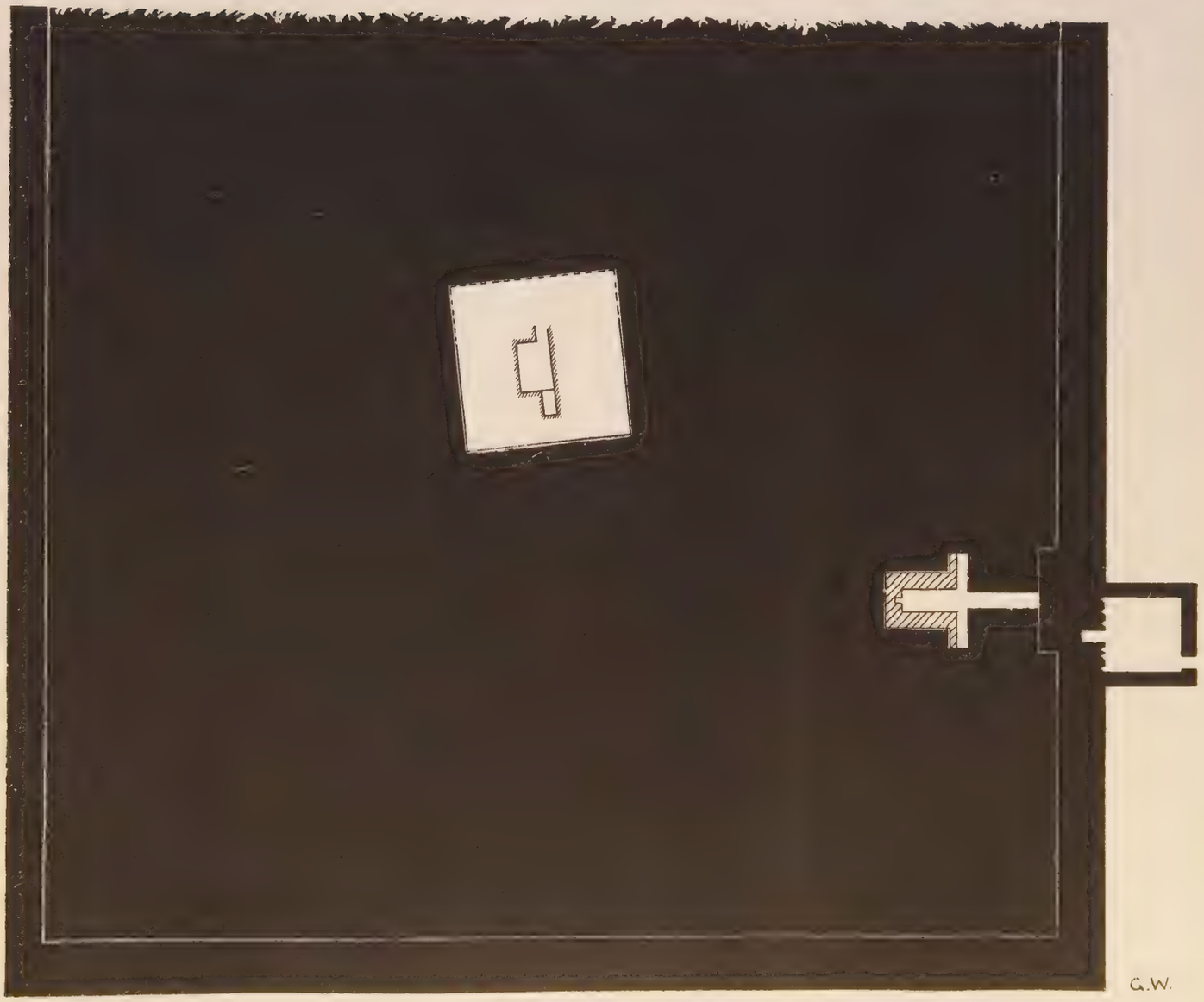

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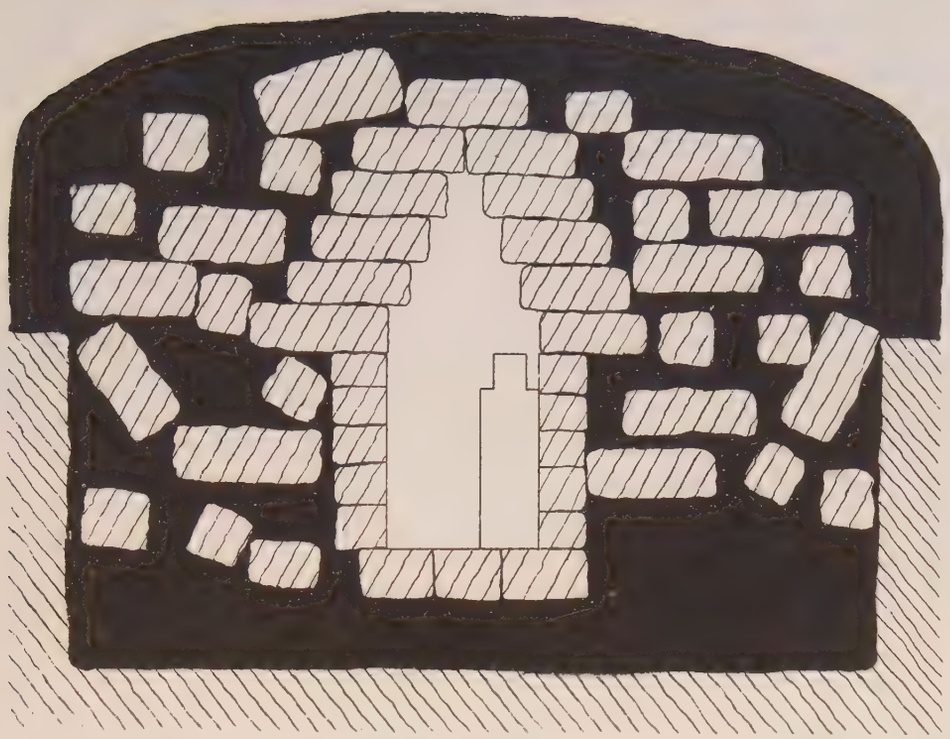
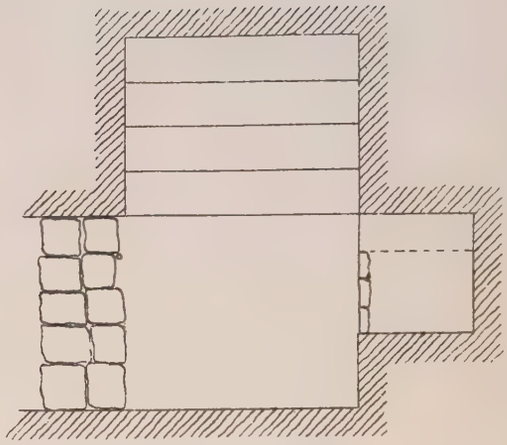
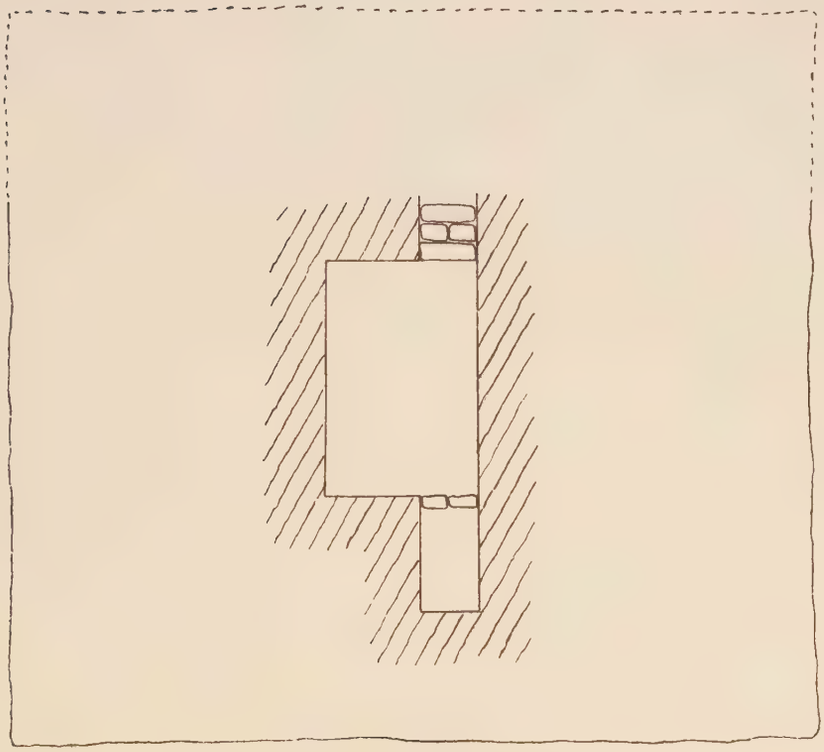


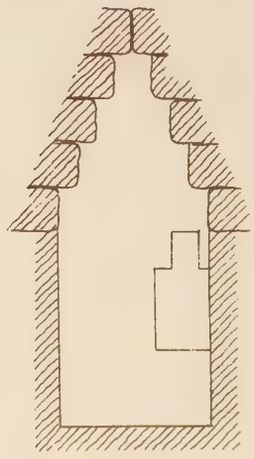
SECTION OF PIT & CHAMBER IN PLANE OF N. WALL.



N. & S. SECTION OF CHAMBER.

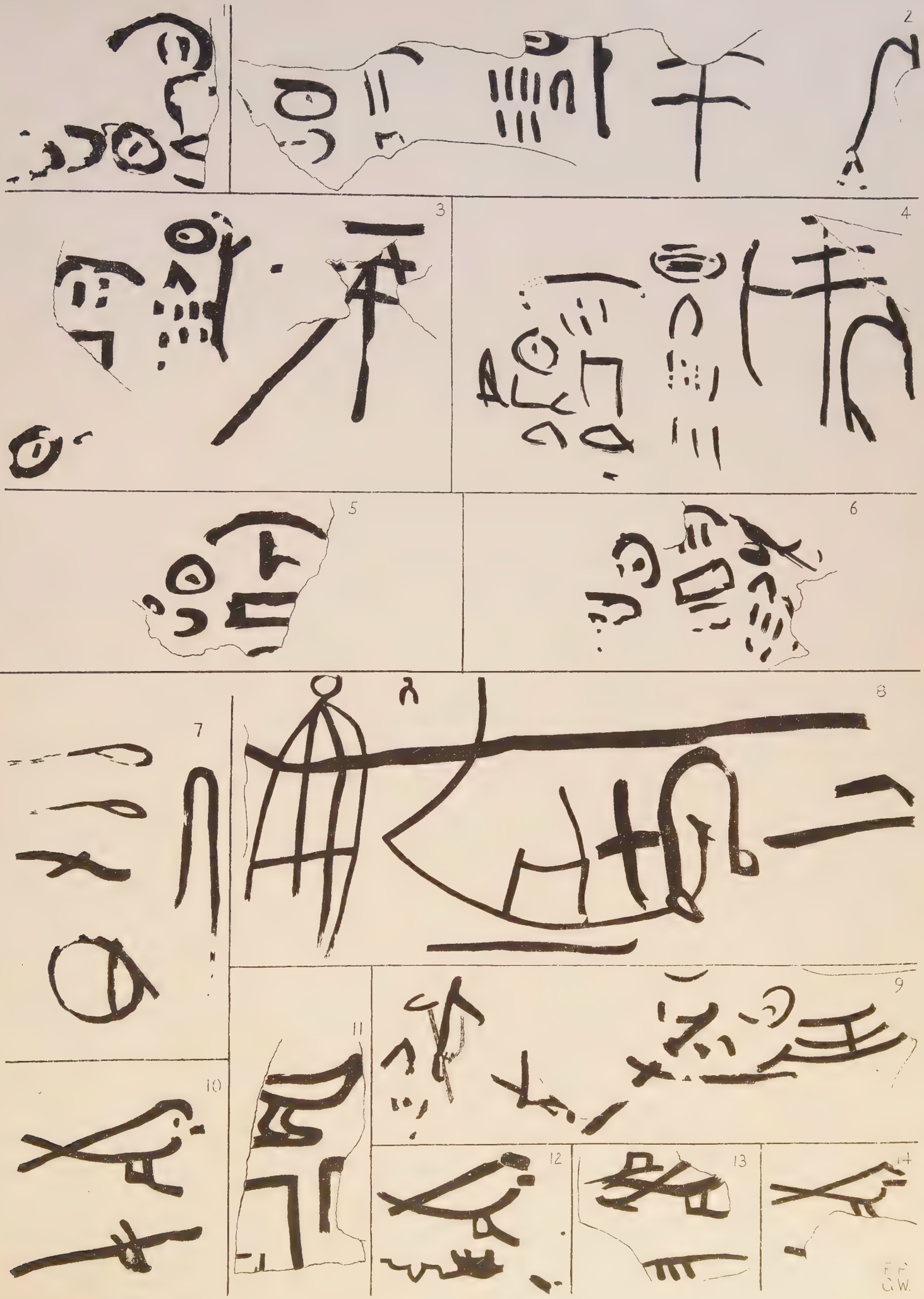


PLAN OF CHAMBER.



G.W.

SECTION IN PLANE OF S. WALL.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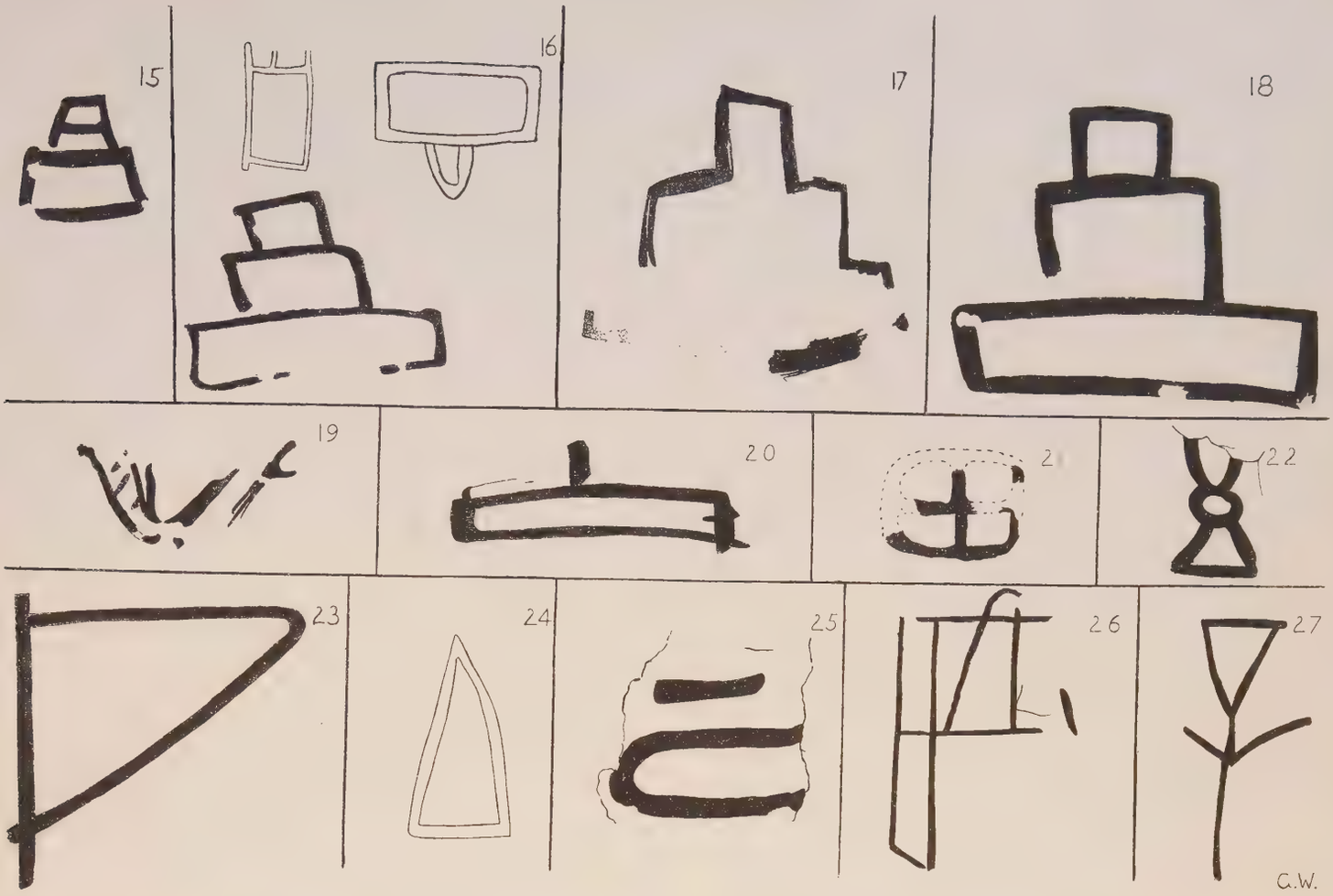

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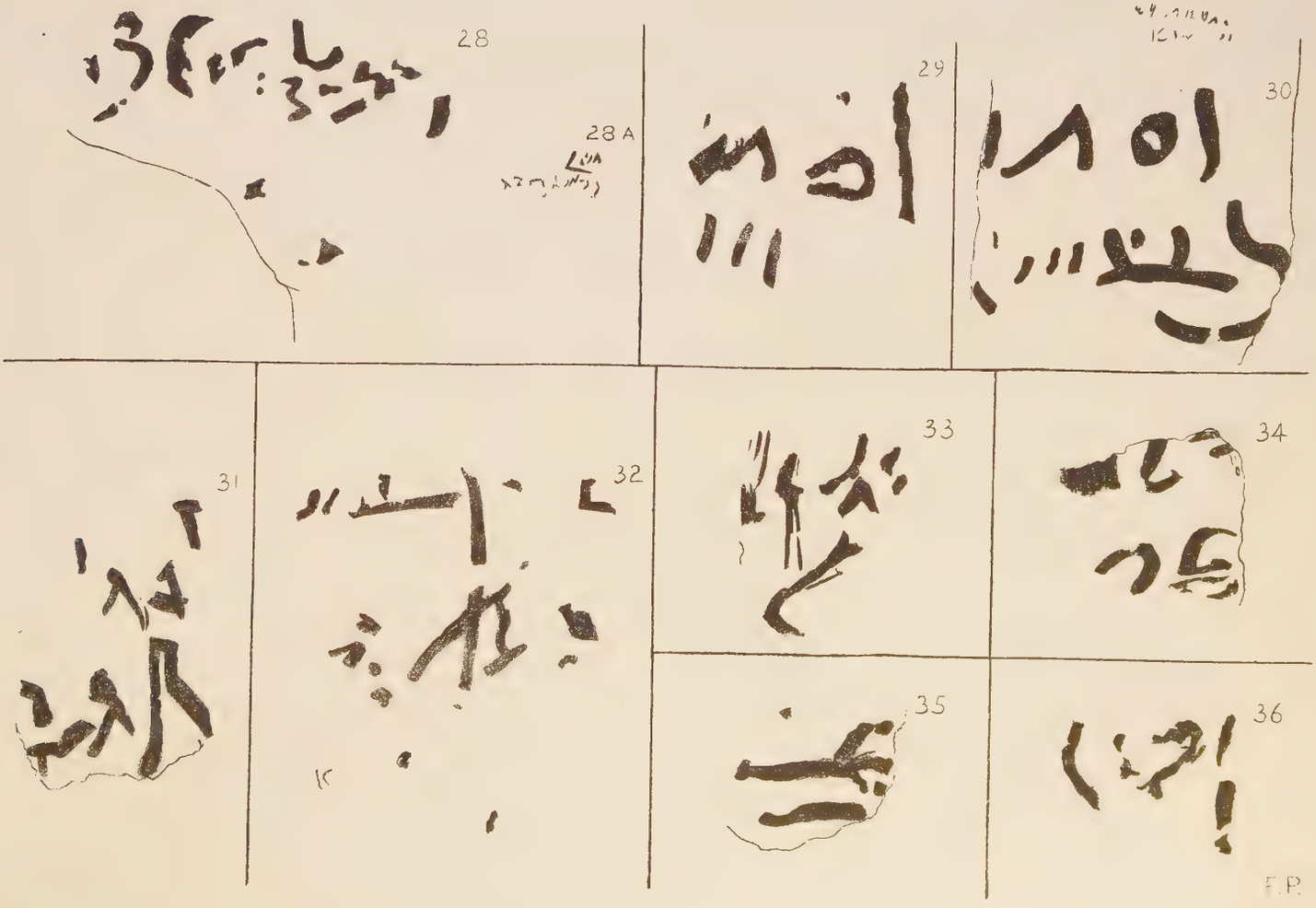
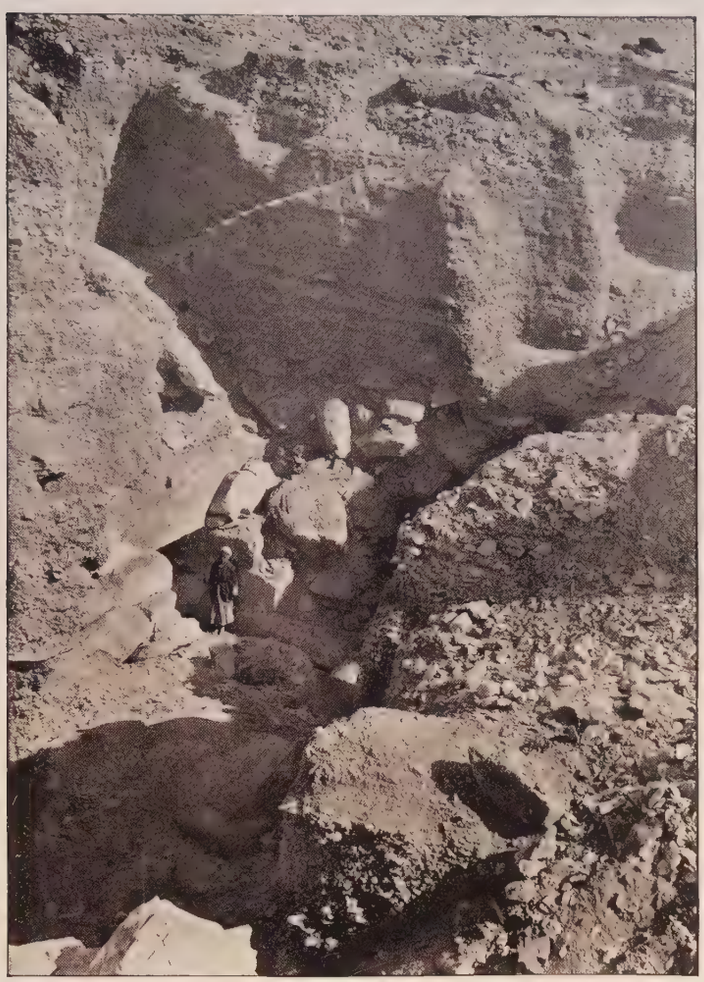


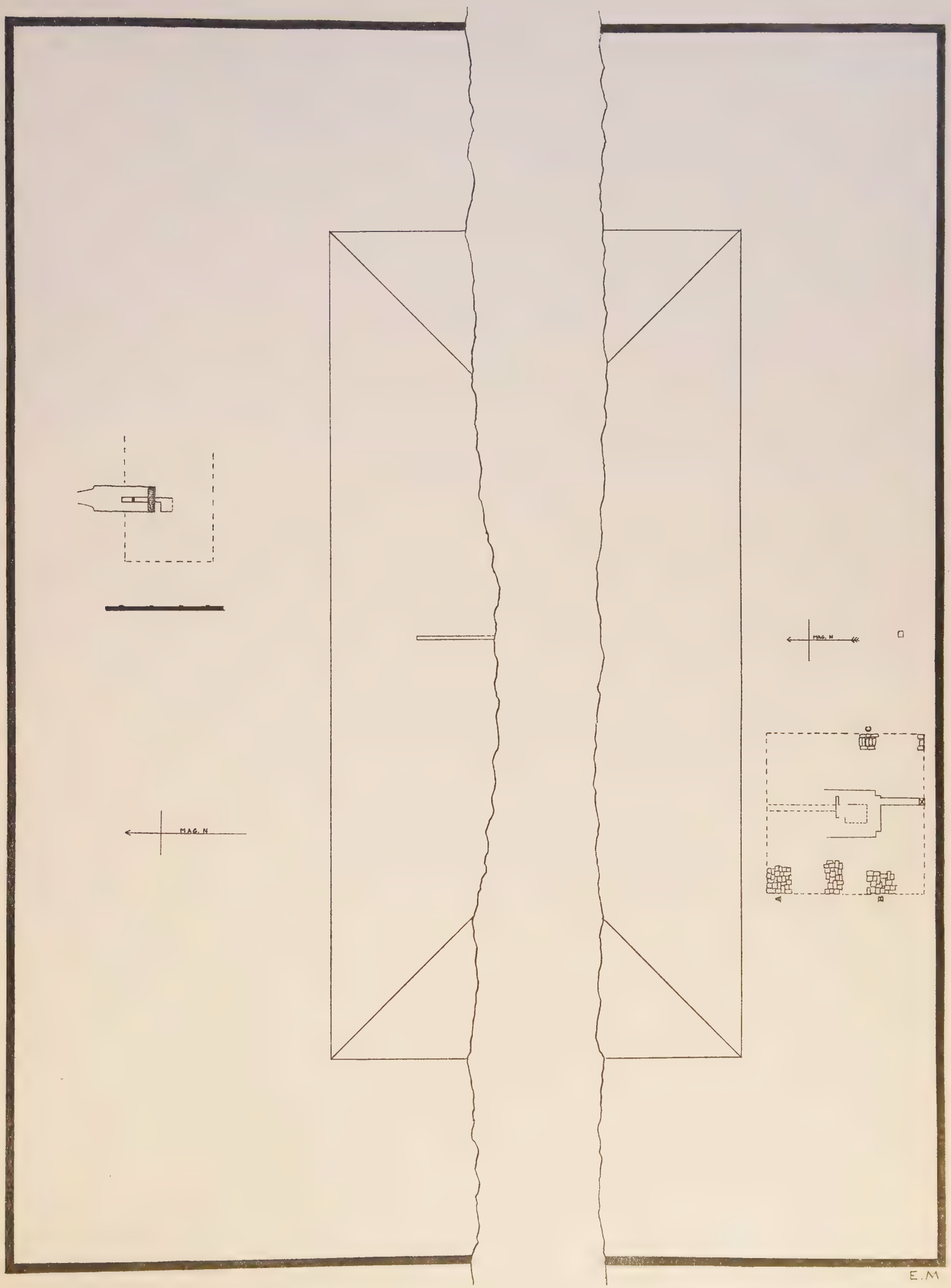


1 SOUTH TOMB, VIEW OF EXCAVATION.

2 SOUTH TOMB, PASSAGE WAY.

4 NORTH TOMB, GENERAL VIEW.

3 SOUTH TOMB, PASSAGE END.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A
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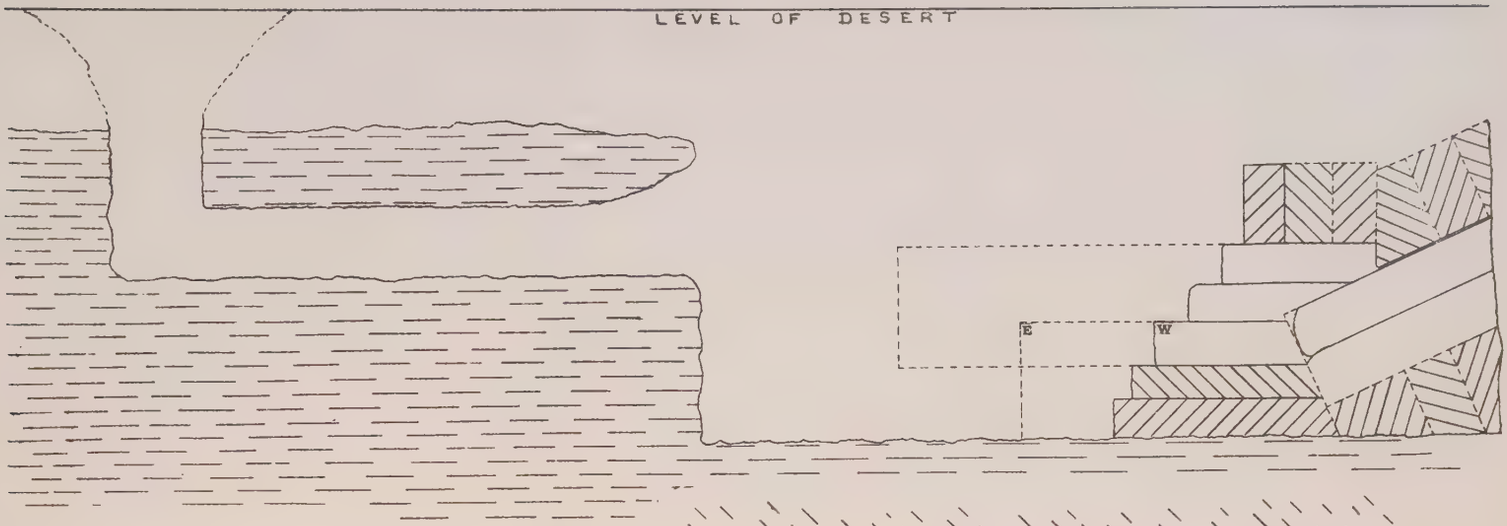

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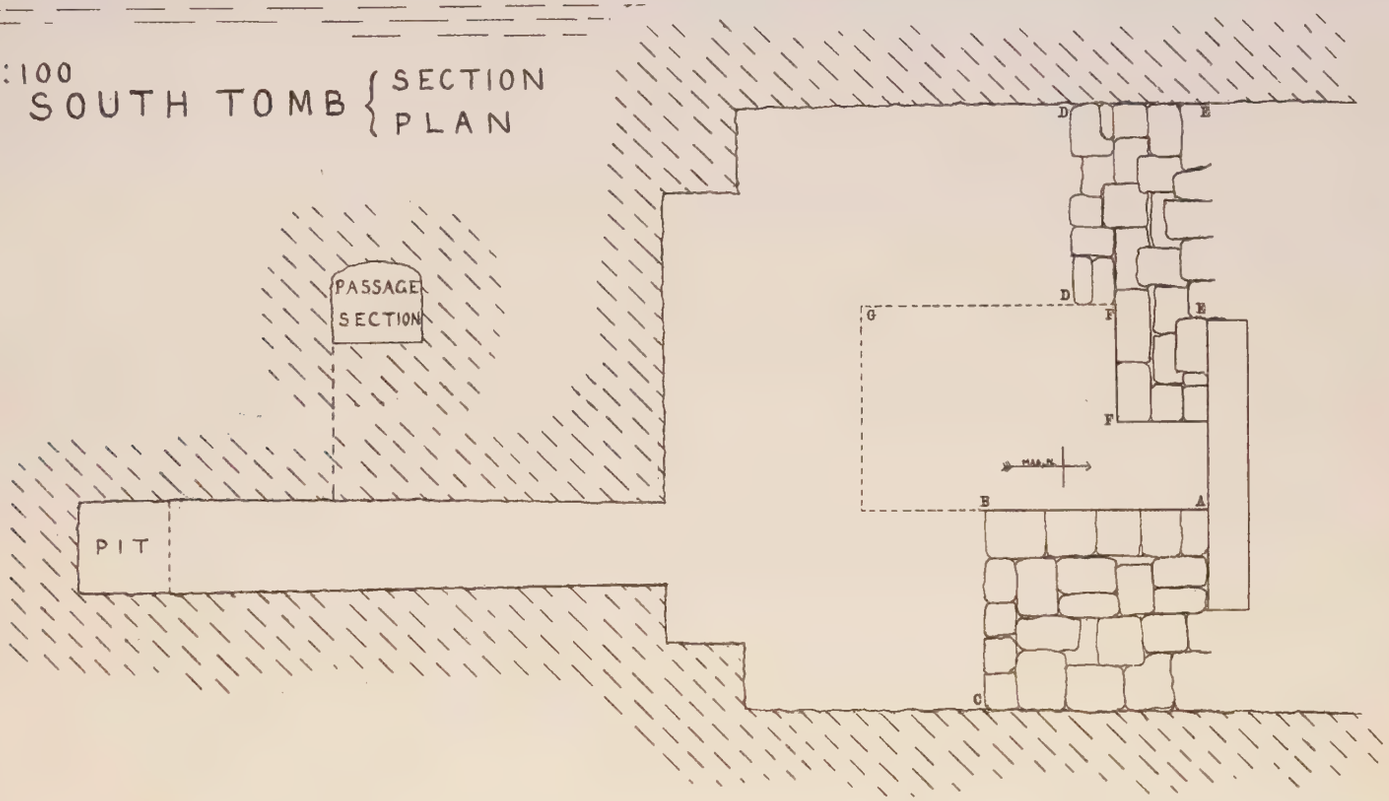
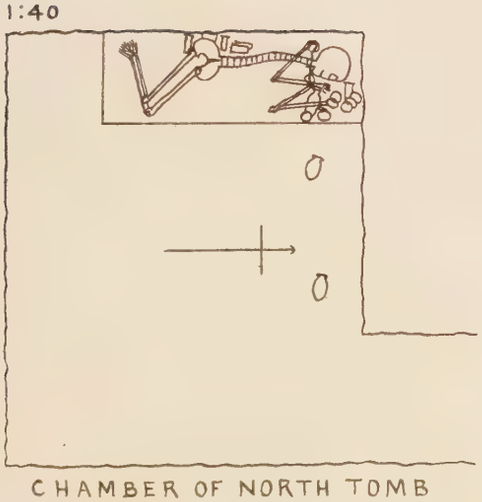
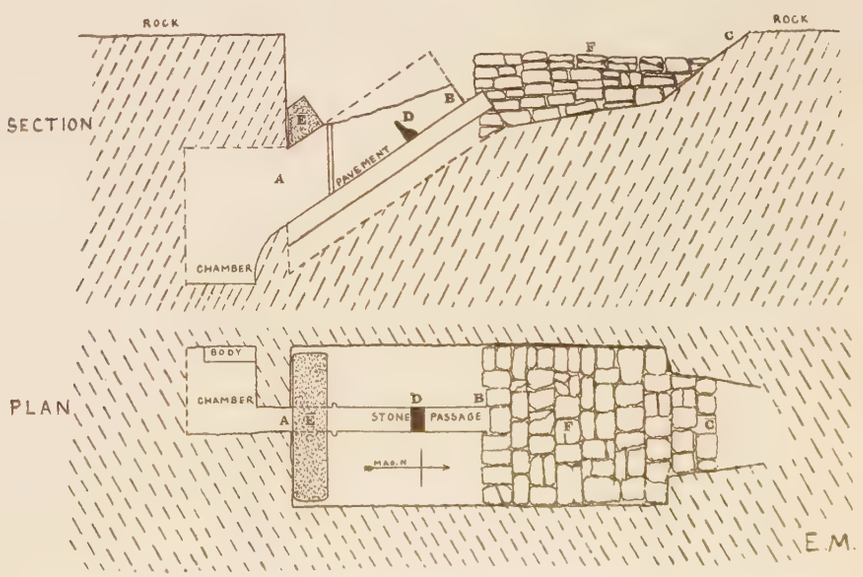
SOUTH TOMB { SECTION / PLAN



1:200 NORTH TOMB
LEVEL OF PYRAMID RUBBISH

1:40





E.M.

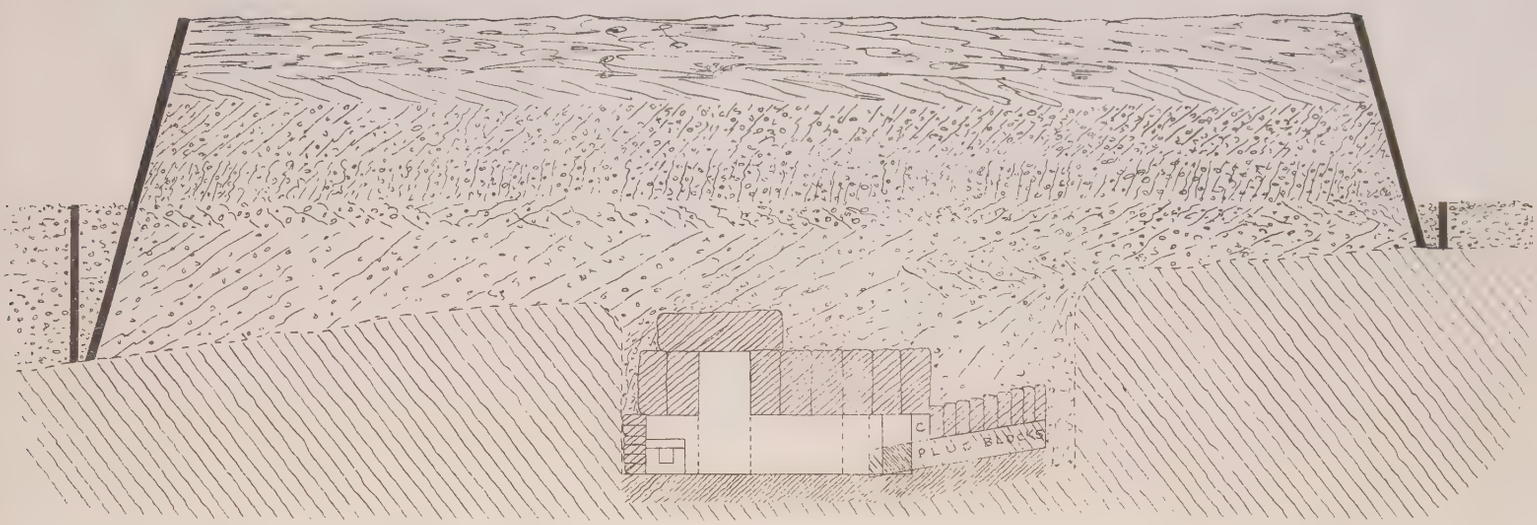
1 FLOOR OF COURT BEFORE OPENING A—B.

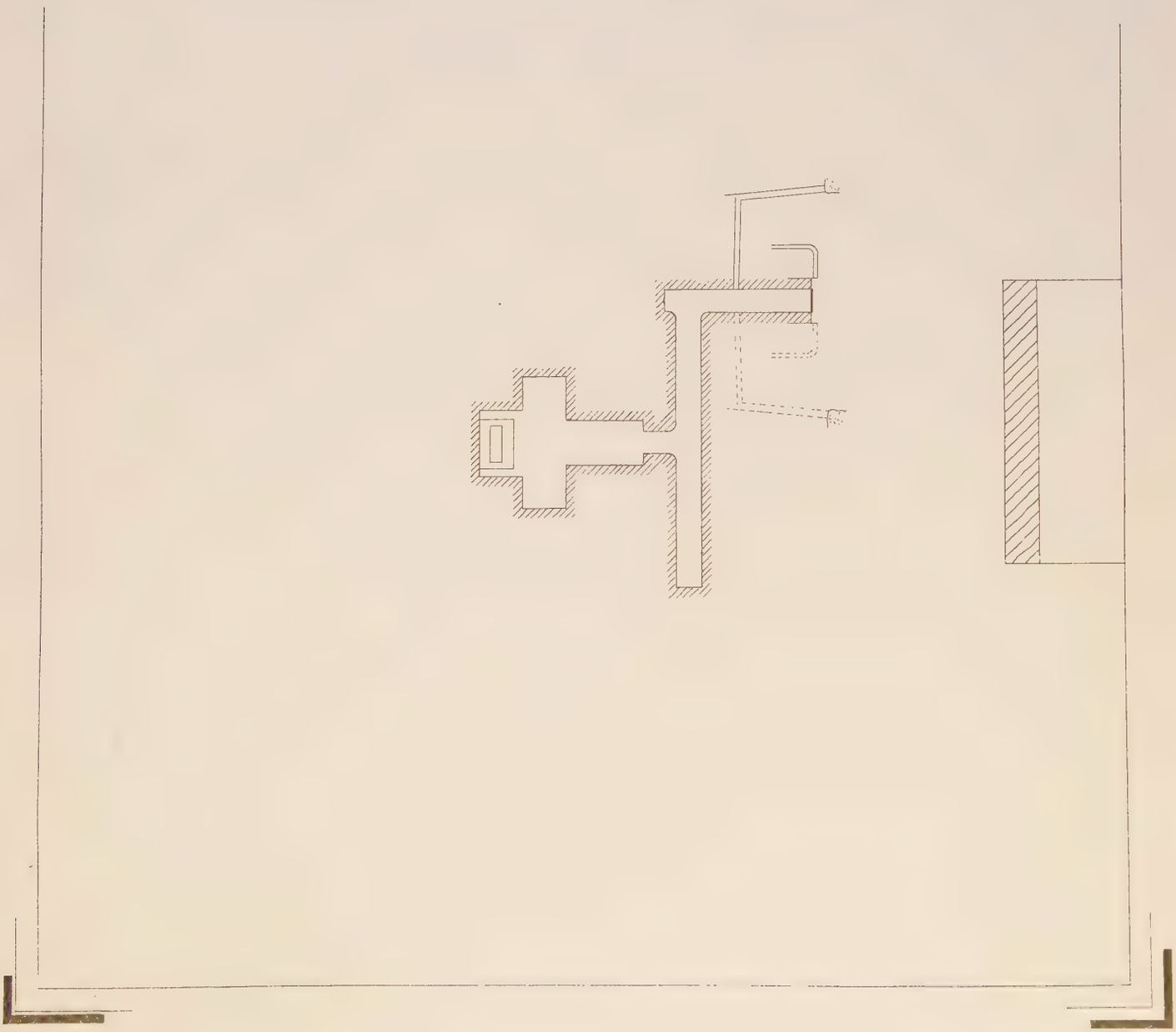
3 EXCAVATION IN MASTABA

2 PLUGGED ENTRANCE. A—B, PRESENT OPENING.

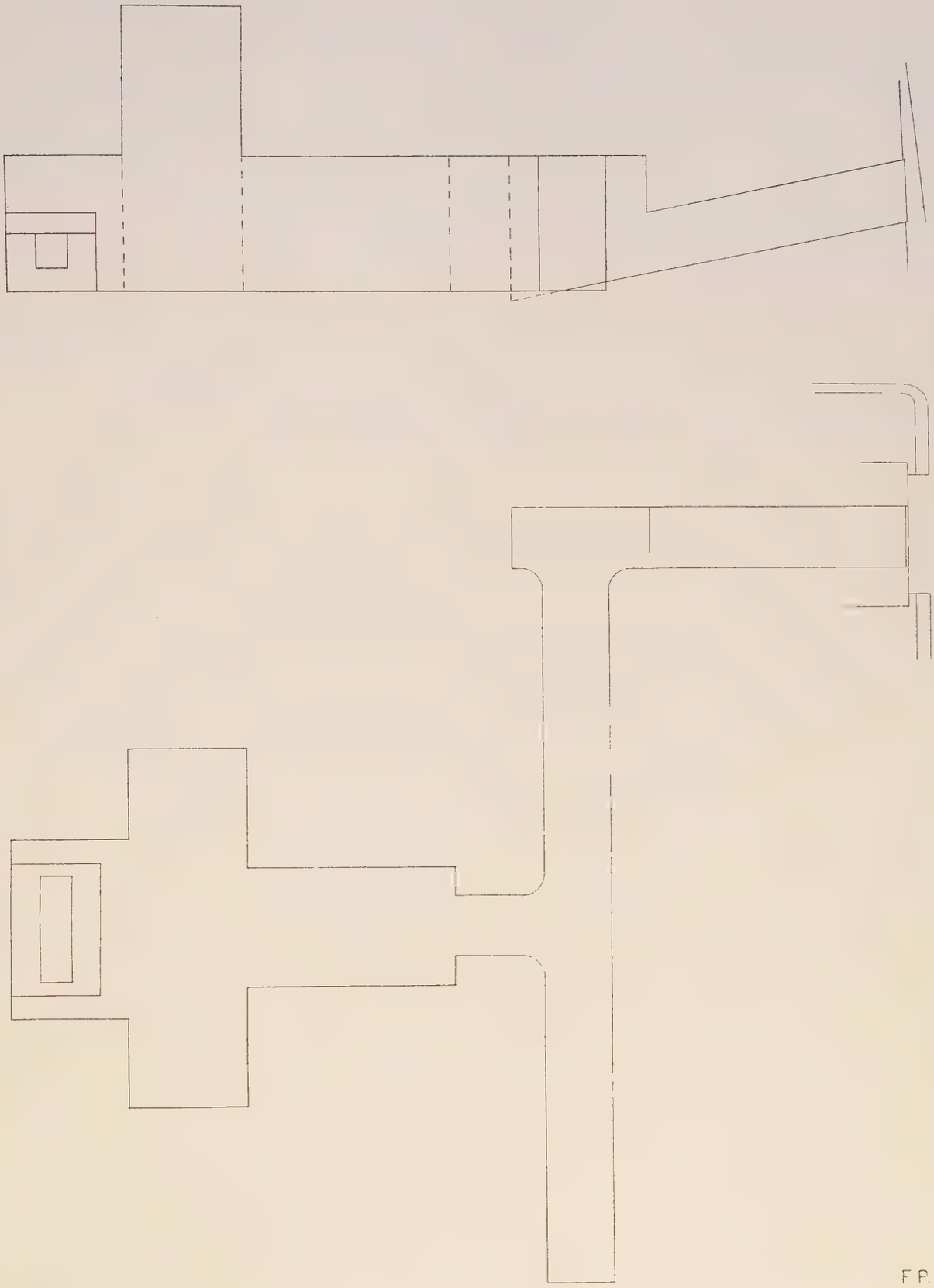
5 PLUNDERERS' HOLE IN PASSAGE.

4 GRANITE SARCOPHAGUS.



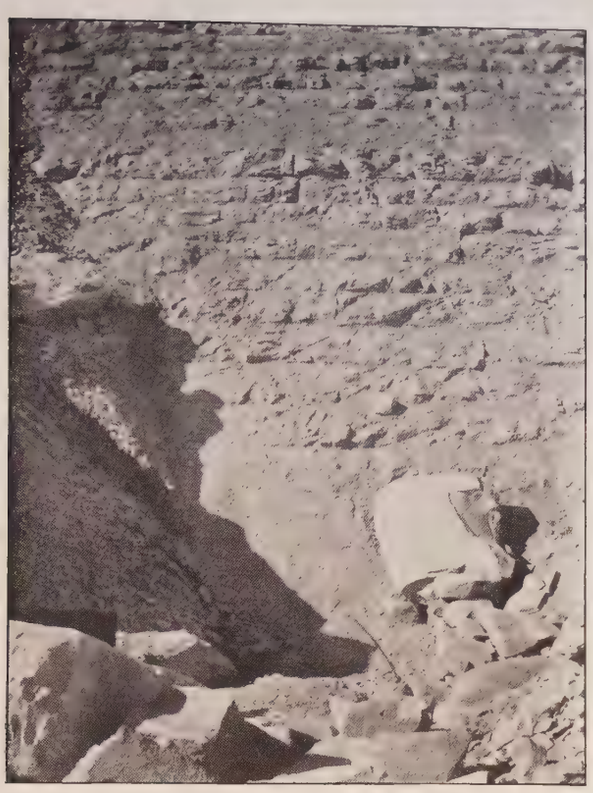


G.W.



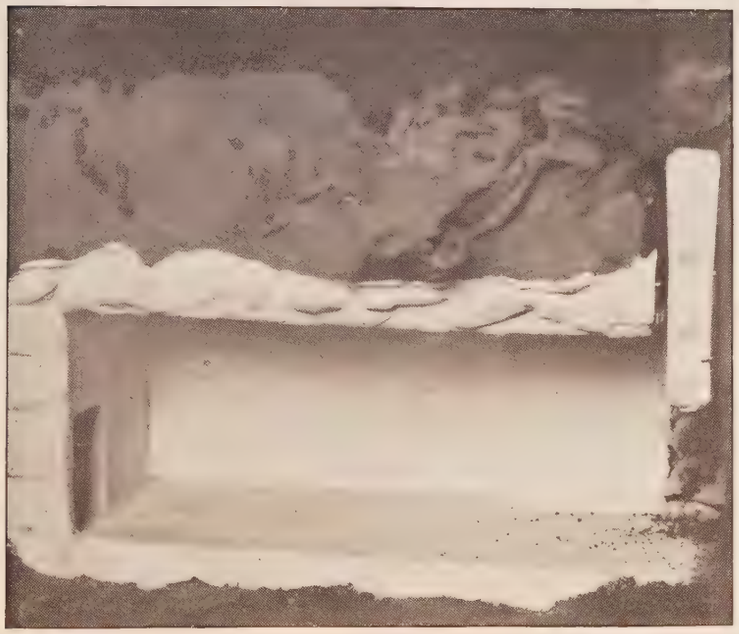
F P.

1 ACCOUNTS OF PYRAMID BUILDERS.

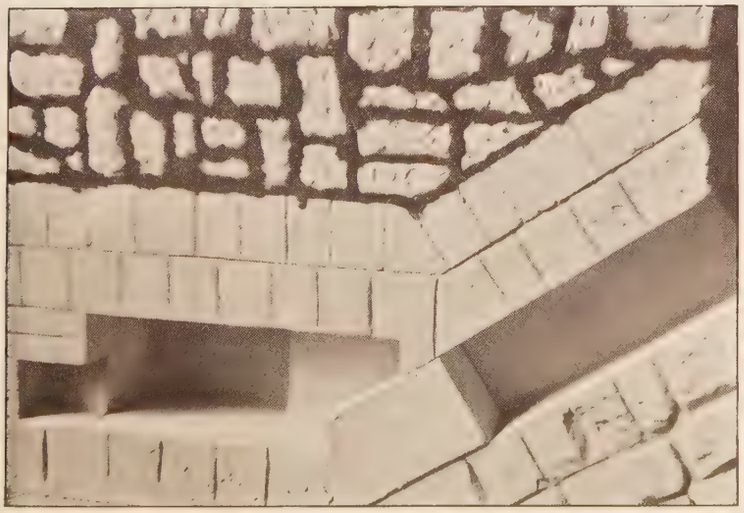


2 PYRAMID, E. FACE, WEATHERED

3 CLEARING PYRAMID, EAST FACE.

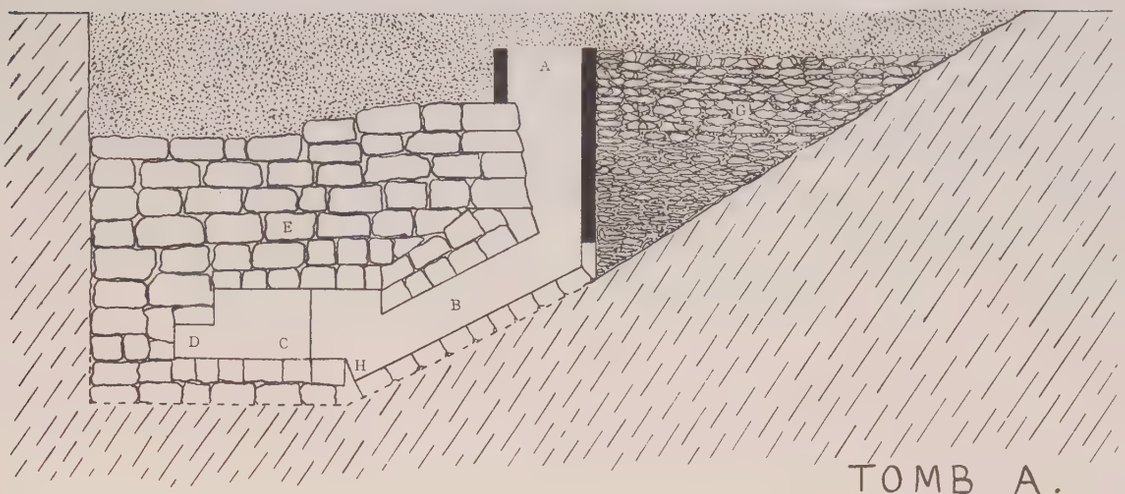


4 MODEL OF FAR WEST TOMBS.



5 MODEL OF GREAT TOMBS, WEST.

6 ENTRANCE TO GREAT TOMB, WEST.



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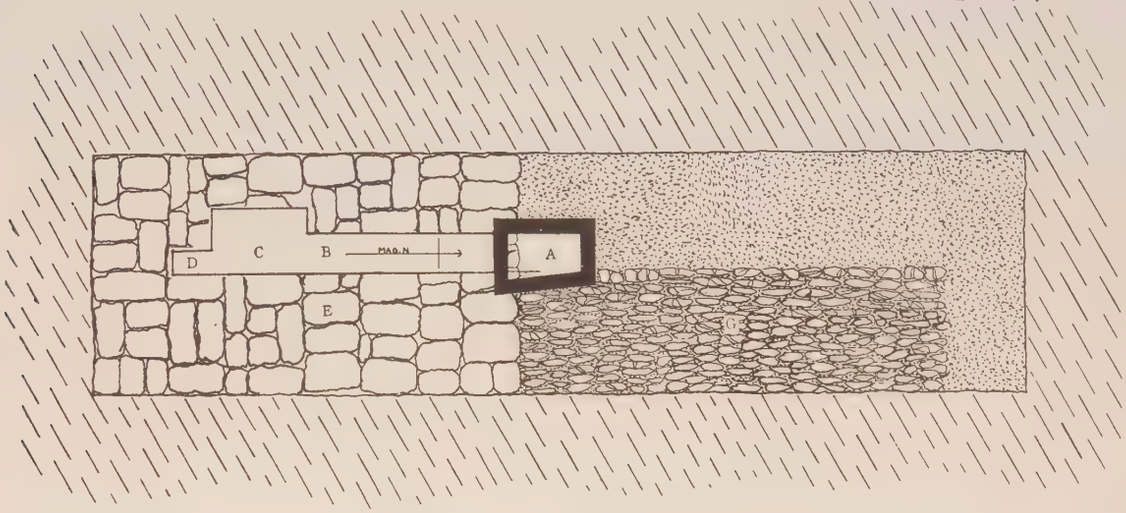
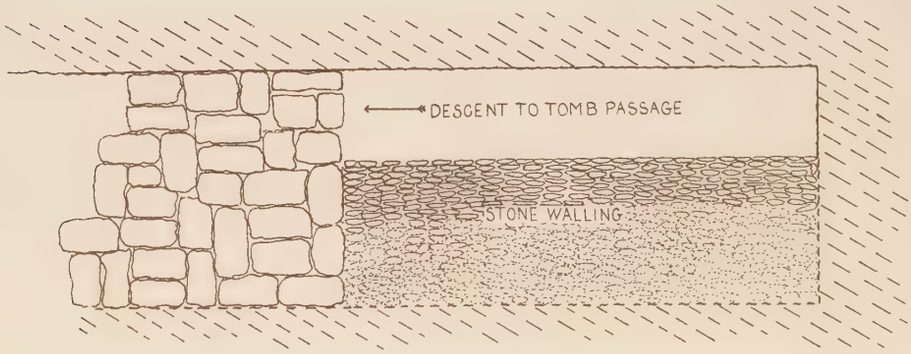
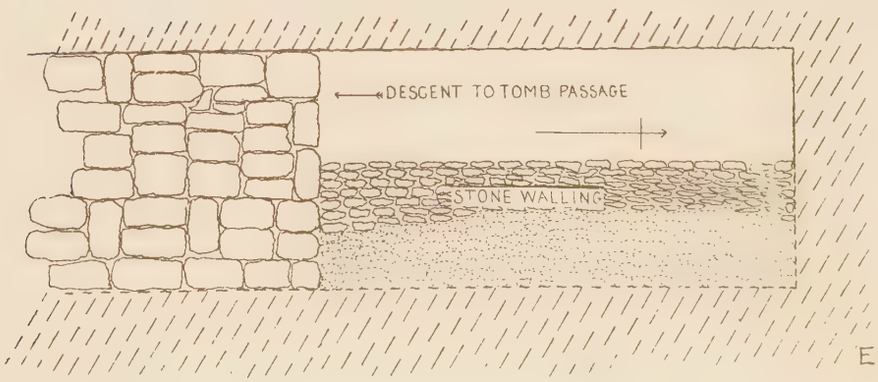


TOMB B.

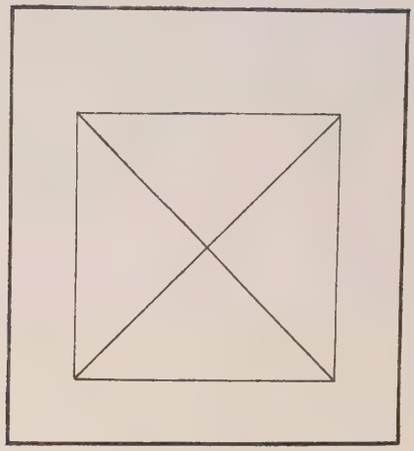


TOMB C.



E.M.

FAR WESTERN TOMBS

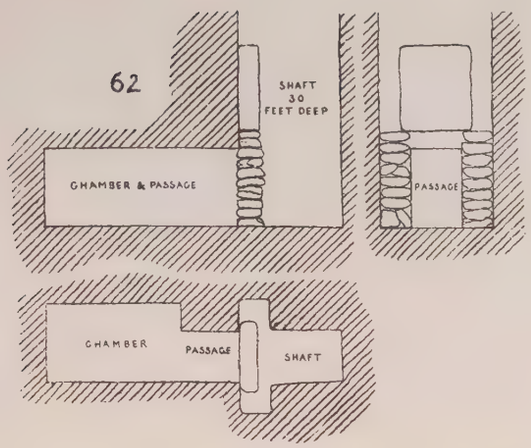


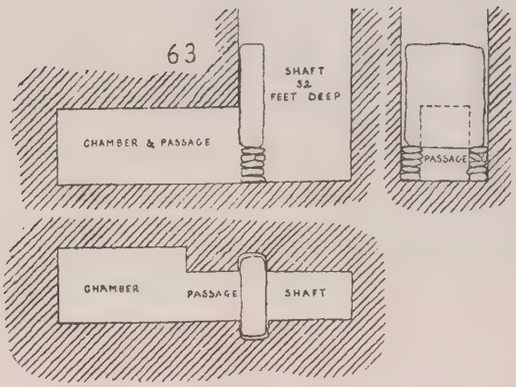
NEAR WESTERN TOMBS

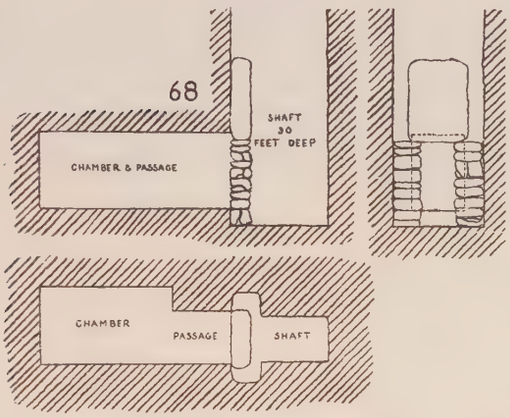
1:4000

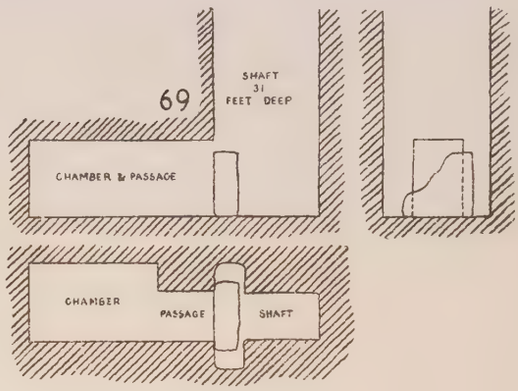
1:1000 FAR WESTERN TOMBS

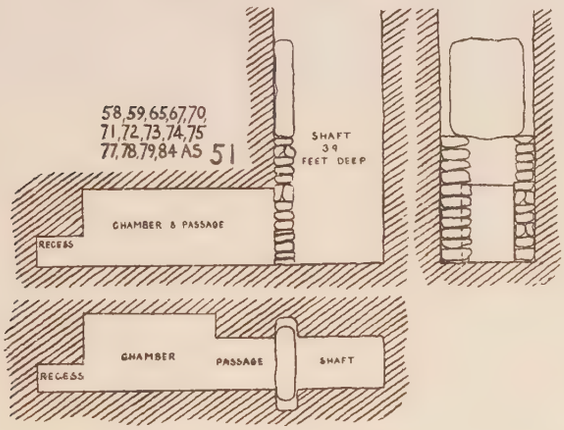
E.M.

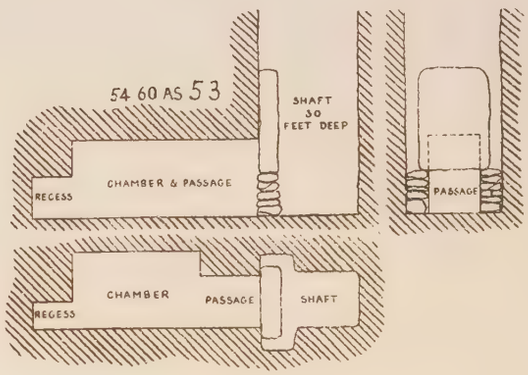

62
SHAFT 30 FEET DEEP
CHAMBER & PASSAGE
PASSAGE
CHAMBER
PASSAGE
SHAFT

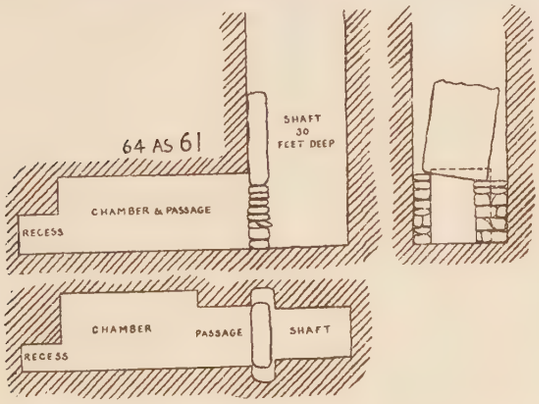

63
SHAFT 32 FEET DEEP
CHAMBER & PASSAGE
PASSAGE
CHAMBER
PASSAGE
SHAFT

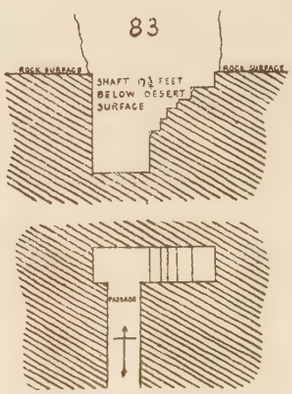

68
SHAFT 30 FEET DEEP
CHAMBER & PASSAGE
CHAMBER
PASSAGE
SHAFT


69
SHAFT 31 FEET DEEP
CHAMBER & PASSAGE
CHAMBER
PASSAGE
SHAFT


58,59,65,67,70
71,72,73,74,75
77,78,79,84 AS 51
SHAFT 39 FEET DEEP
CHAMBER & PASSAGE
RECESS
CHAMBER
PASSAGE
SHAFT
RECESS


54 60 AS 53
SHAFT 30 FEET DEEP
RECESS
CHAMBER & PASSAGE
PASSAGE
CHAMBER
PASSAGE
SHAFT
RECESS


64 AS 61
SHAFT 30 FEET DEEP
CHAMBER & PASSAGE
RECESS
CHAMBER
PASSAGE
SHAFT
RECESS

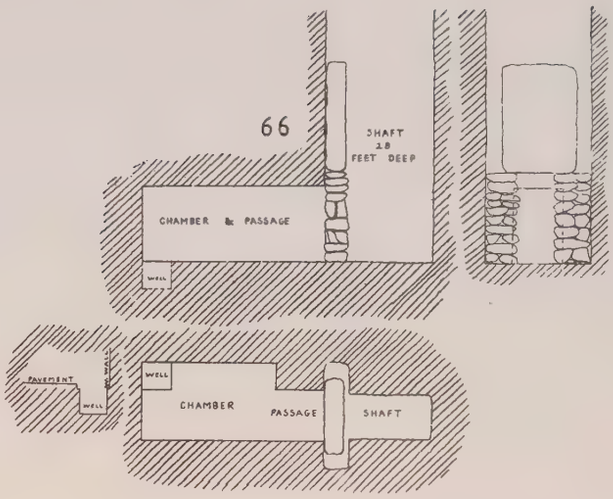

83
ROCK SURFACE
SHAFT 17½ FEET BELOW DESERT SURFACE
ROCK SURFACE
PASSAGE

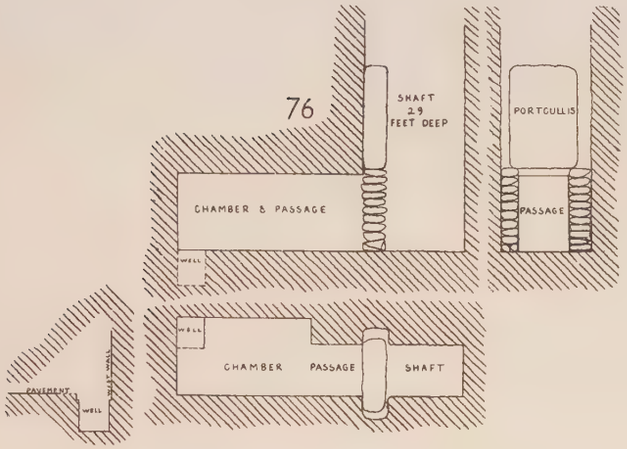
80
SECTION OF PASSAGE

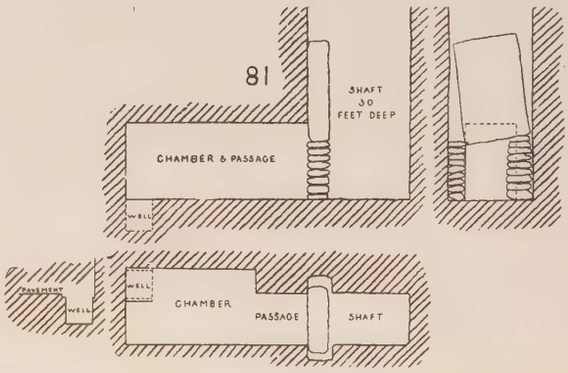
SHAFT 126 FEET DEEP

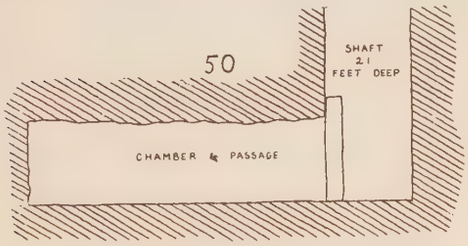
E.M.

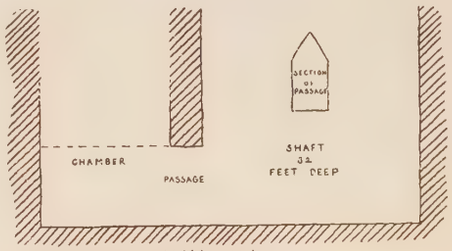
57
SHAFT
34
FEET DEEP
CHAMBER & PASSAGE
WELL
CHAMBER
PASSAGE
SHAFT

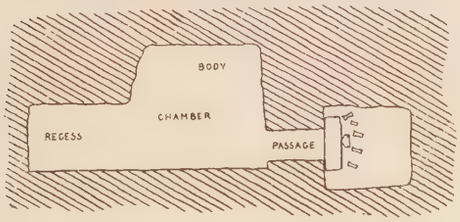

66
SHAFT
28
FEET DEEP
CHAMBER & PASSAGE
WELL
PAVEMENT
WELL
CHAMBER
PASSAGE
SHAFT

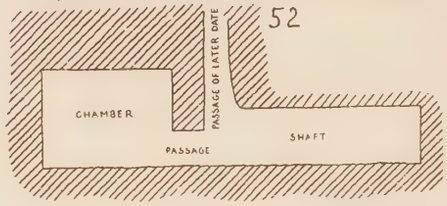

76
SHAFT
29
FEET DEEP
PORTCULLIS
CHAMBER & PASSAGE
PASSAGE
WELL
WELL
CHAMBER
PASSAGE
SHAFT
PAVEMENT
WELL

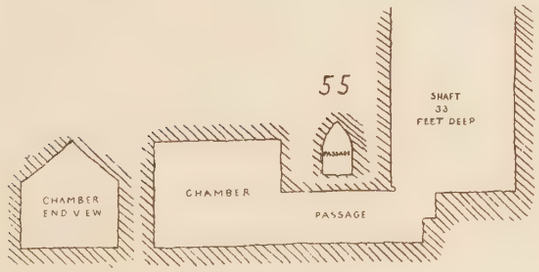

81
SHAFT
30
FEET DEEP
CHAMBER & PASSAGE
WELL
PAVEMENT
WELL
WELL
CHAMBER
PASSAGE
SHAFT

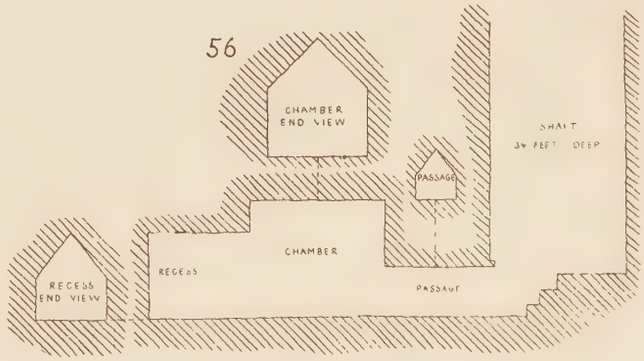

50
SHAFT
21
FEET DEEP
CHAMBER & PASSAGE

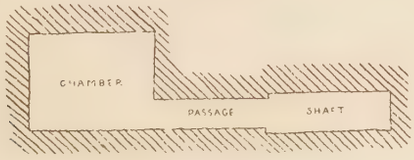

SECTION OF PASSAGE
CHAMBER
PASSAGE
SHAFT
32
FEET DEEP


BODY
CHAMBER
RECESS
PASSAGE
BODY

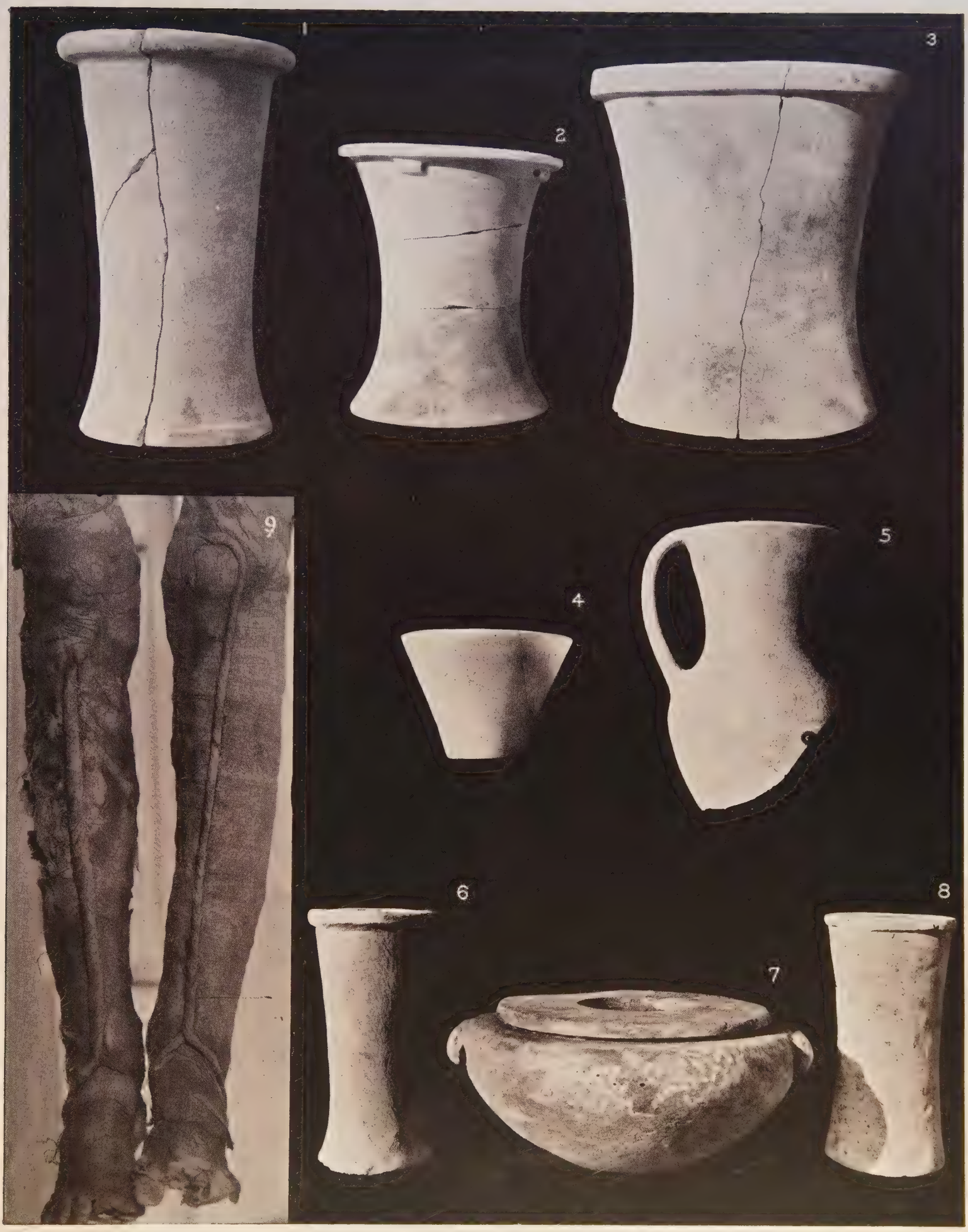

52
PASSAGE OF LATER DATE
CHAMBER
PASSAGE
SHAFT


55
SHAFT
33
FEET DEEP
PASSAGE
CHAMBER
END VIEW
CHAMBER
PASSAGE


56
CHAMBER
END VIEW
SHAFT
34 FEET DEEP
PASSAGE
CHAMBER
RECESS
RECESS
END VIEW
PASSAGE


CHAMBER
PASSAGE
SHAFT

E.M
CHAMBER
RECESS
PASSAGE
SHAFT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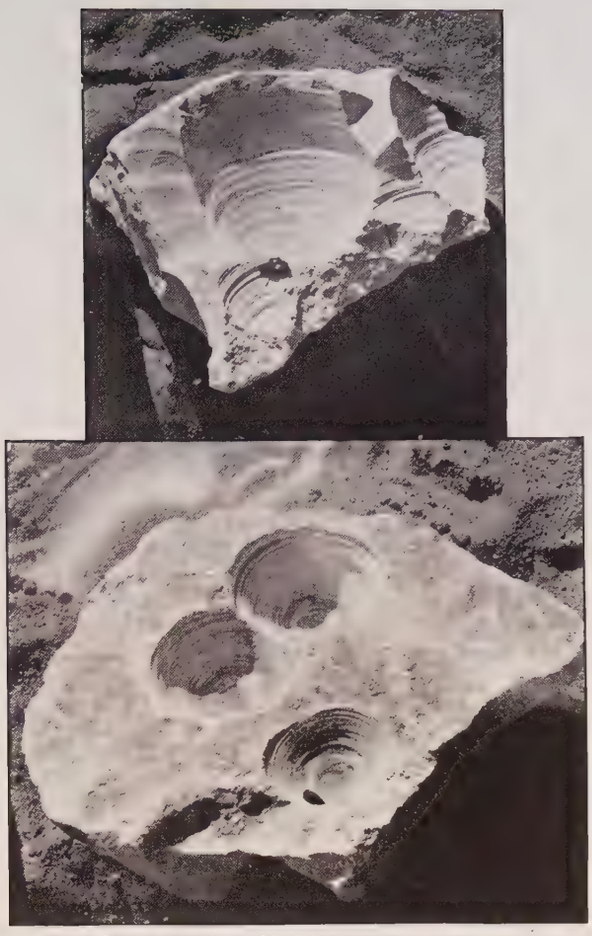

1 PIVOT BLOCKS OF PYRAMID BUILDERS

2 NEFERMAAT BRICK. 3 KHAKER FROM TEMPLE.

4—6 SCULPTURES FROM CHAPEL OF NEFERT.

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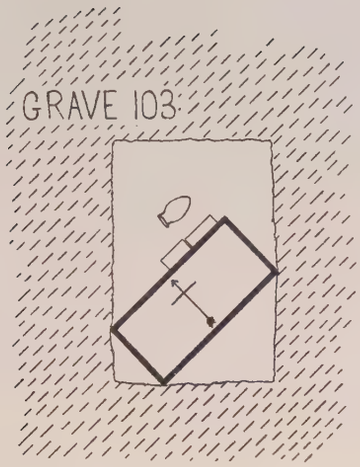
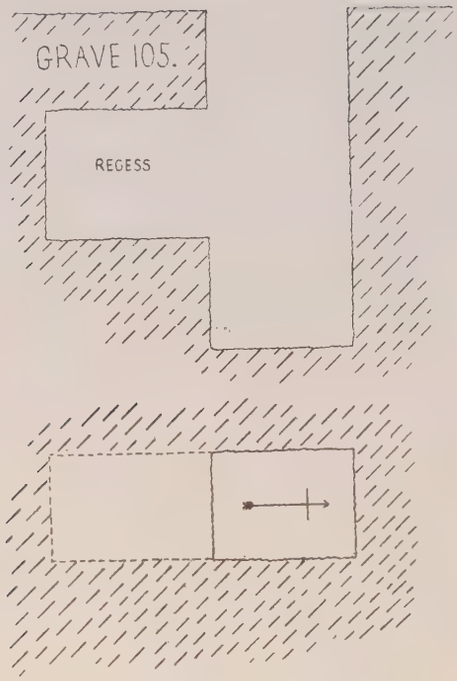
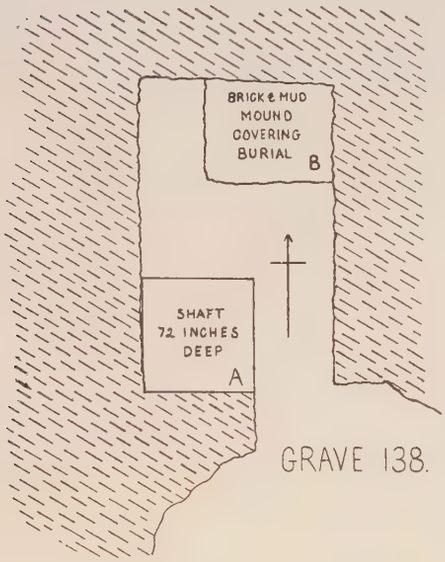
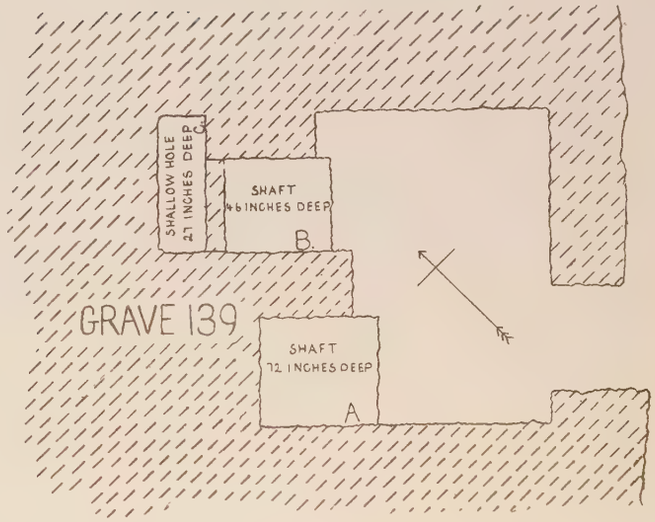
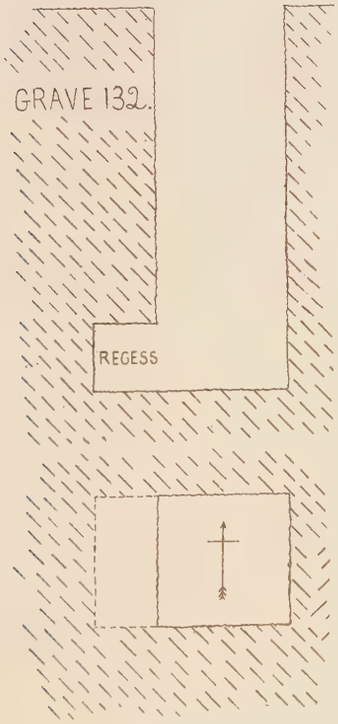
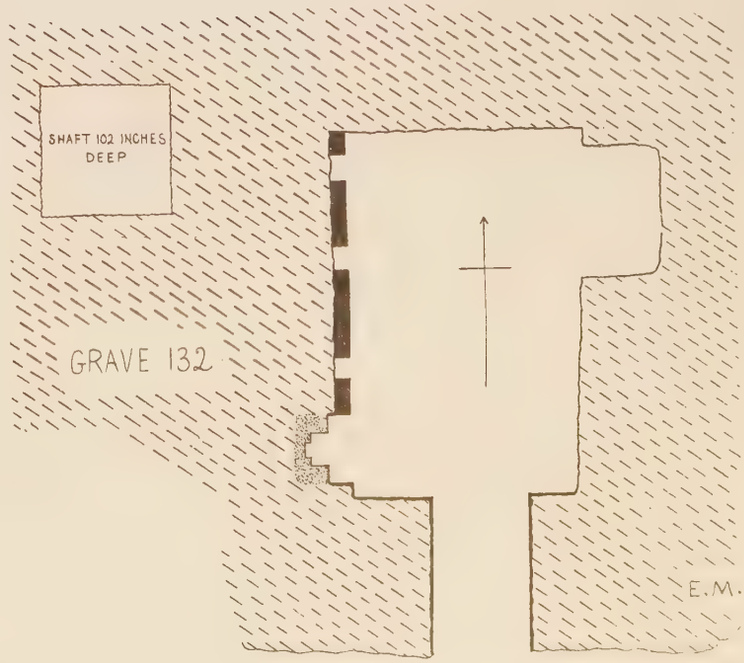

GRAVE 103.


GRAVE 105.
REGESS


BRICK & MUD MOUND COVERING BURIAL
B
SHAFT 72 INCHES DEEP
A
GRAVE 138.

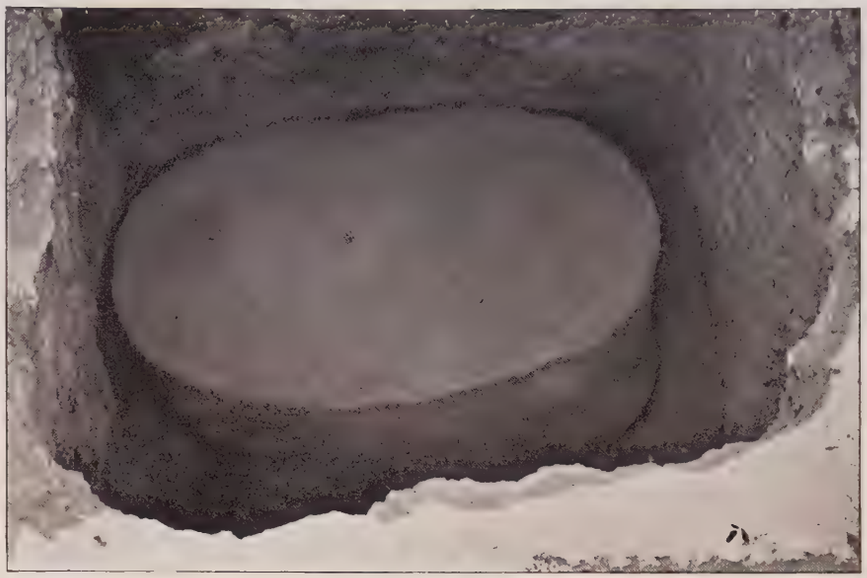

SHALLOW HOLE 27 INCHES DEEP
SHAFT 61 INCHES DEEP
B.
GRAVE 139
SHAFT 72 INCHES DEEP
A


GRAVE 132.
REGESS


SHAFT 102 INCHES DEEP
GRAVE 132
E.M.

1 CLASS A. BURIAL IN A HOLE. GRAVE 126

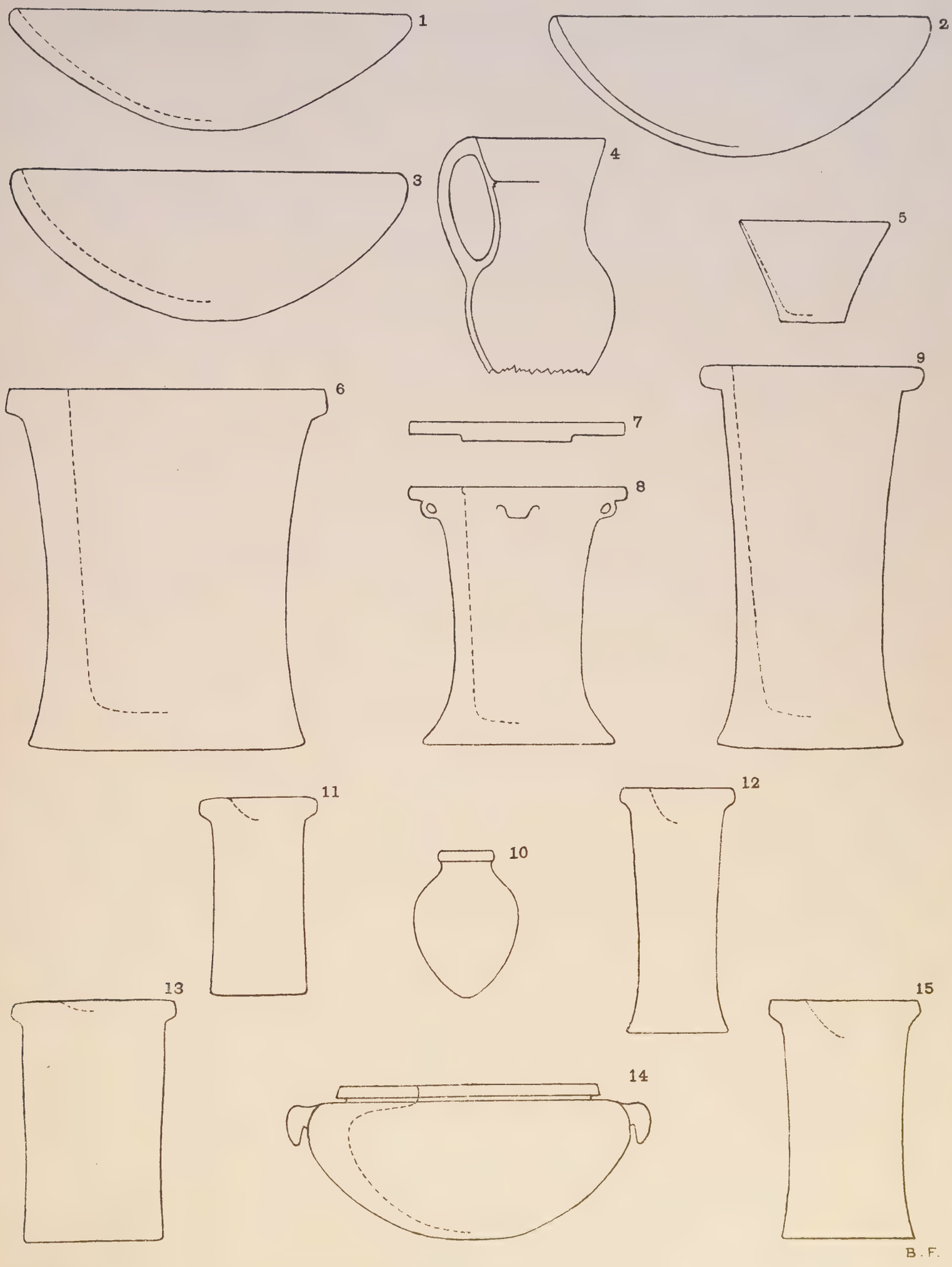
3 BOX BURIAL, E. SIDE OF MASTABA.



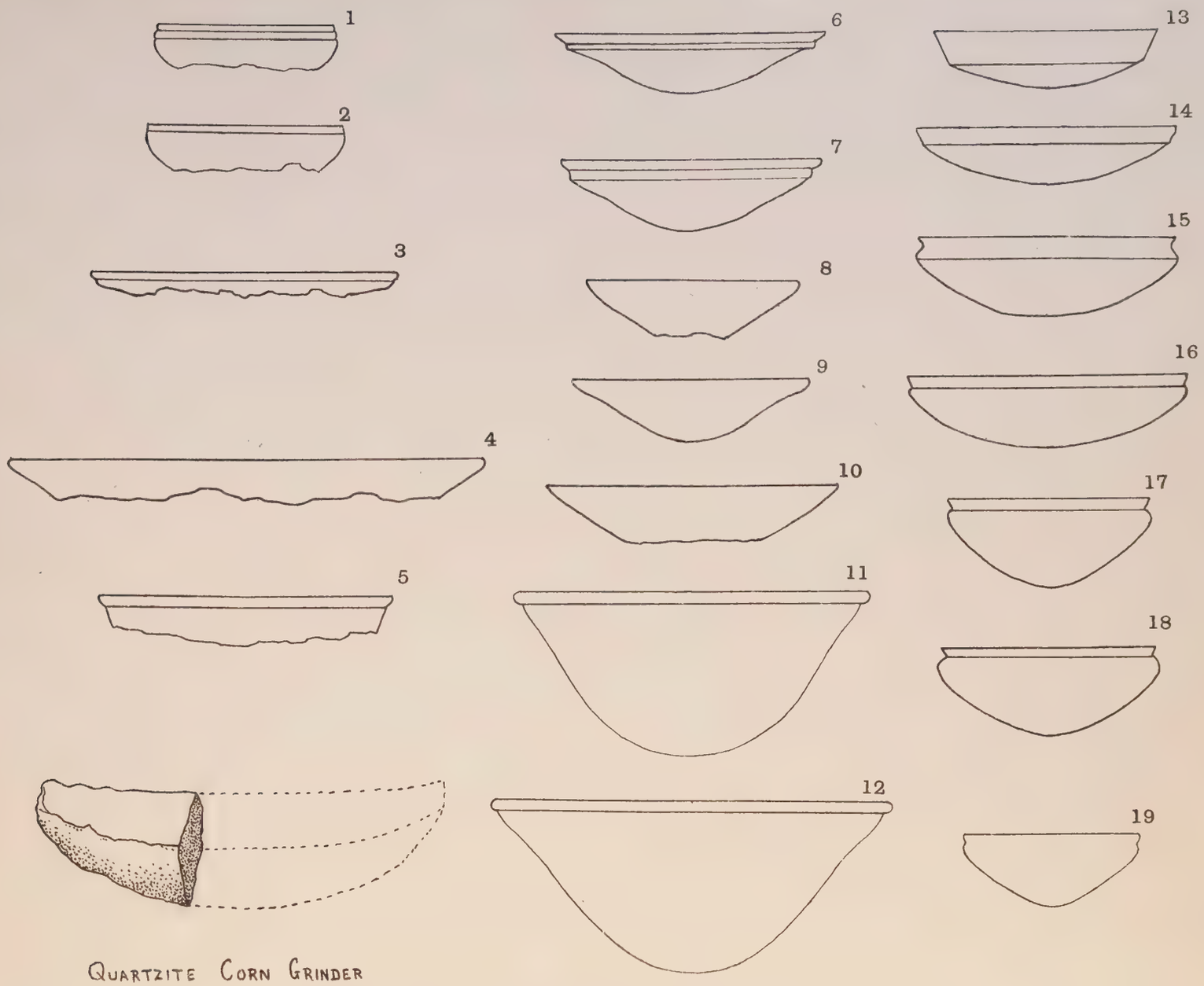
2 CLASS B. BURIAL IN SHAFT. GRAVE 124.

4 CLASS B. BURIAL IN SHAFT RECESS. GRAVE 133.

5 CLASS B. BURIAL IN SHAFT RECESS. GRAVE 104

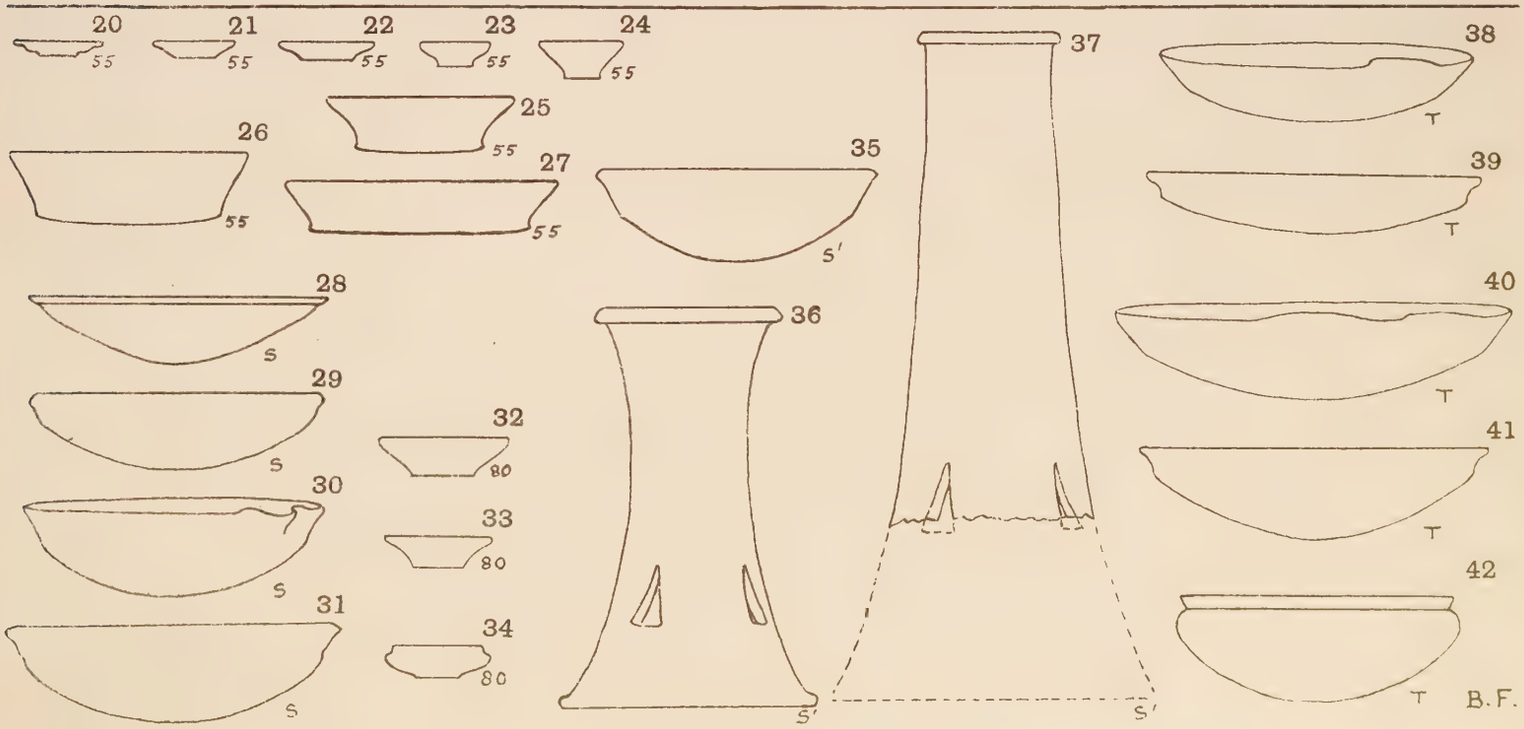


B. F.

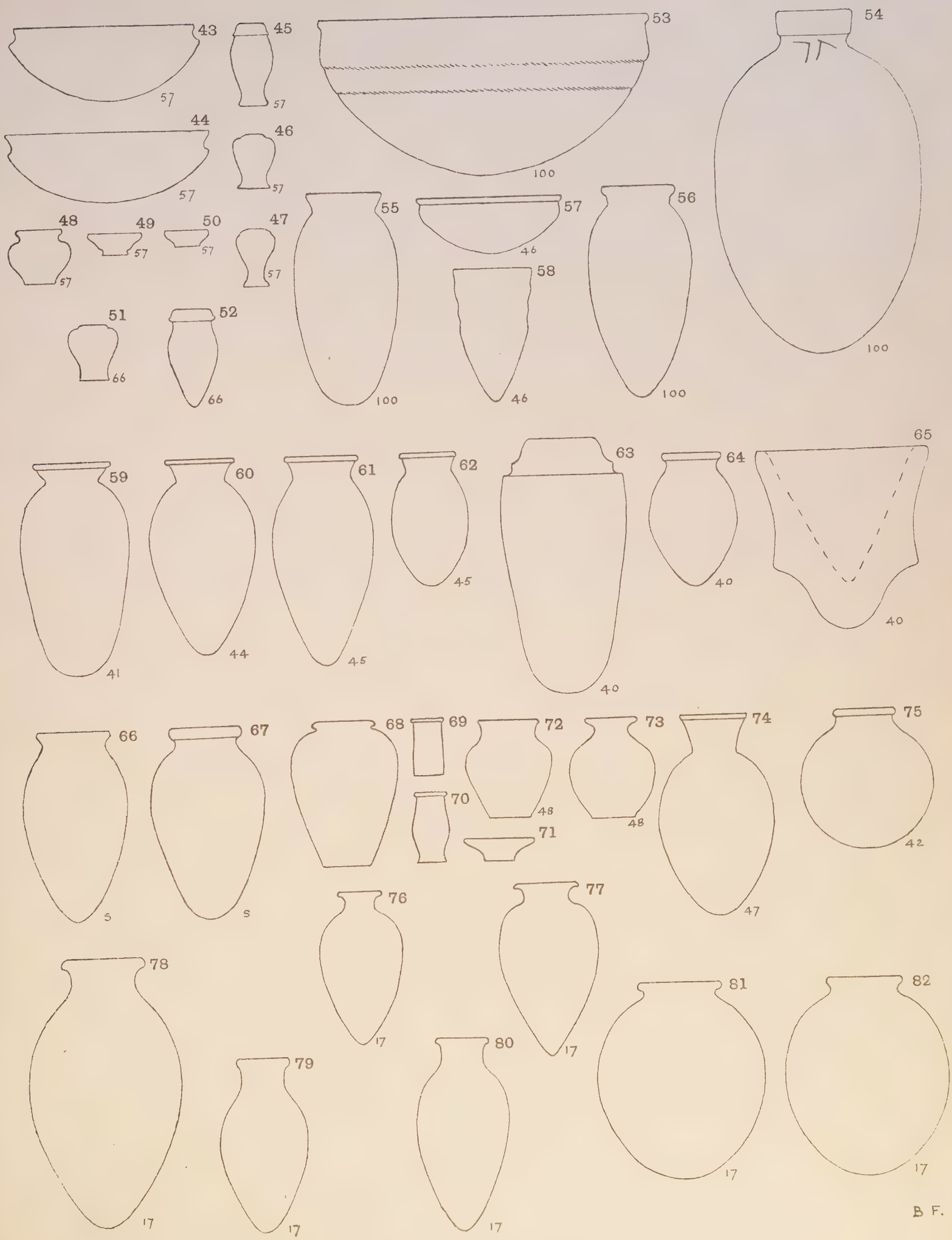


QUARTZITE CORN GRINDER

SNEFERU FOUNDATION DEPOSIT.



B.F.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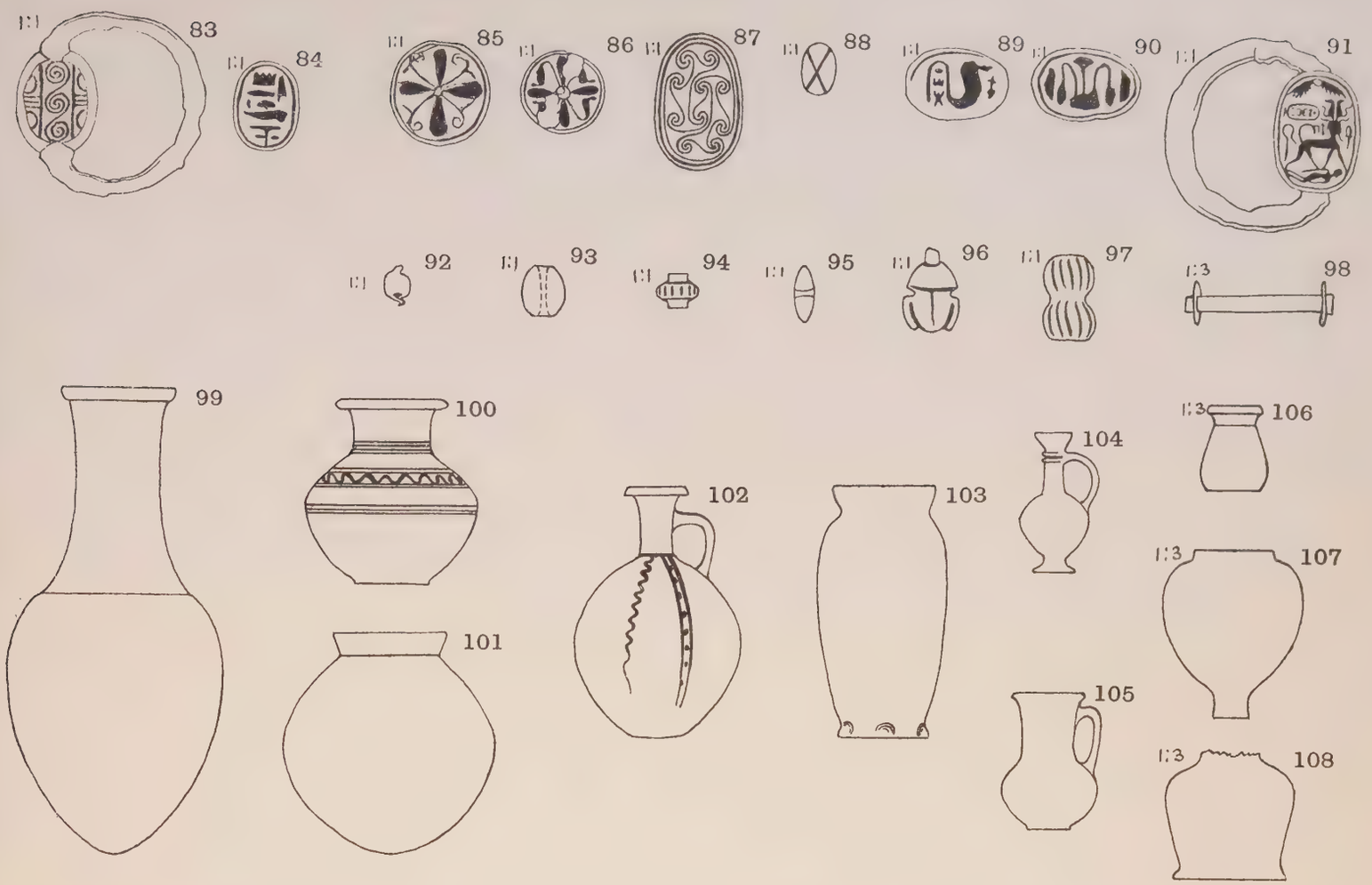
B F.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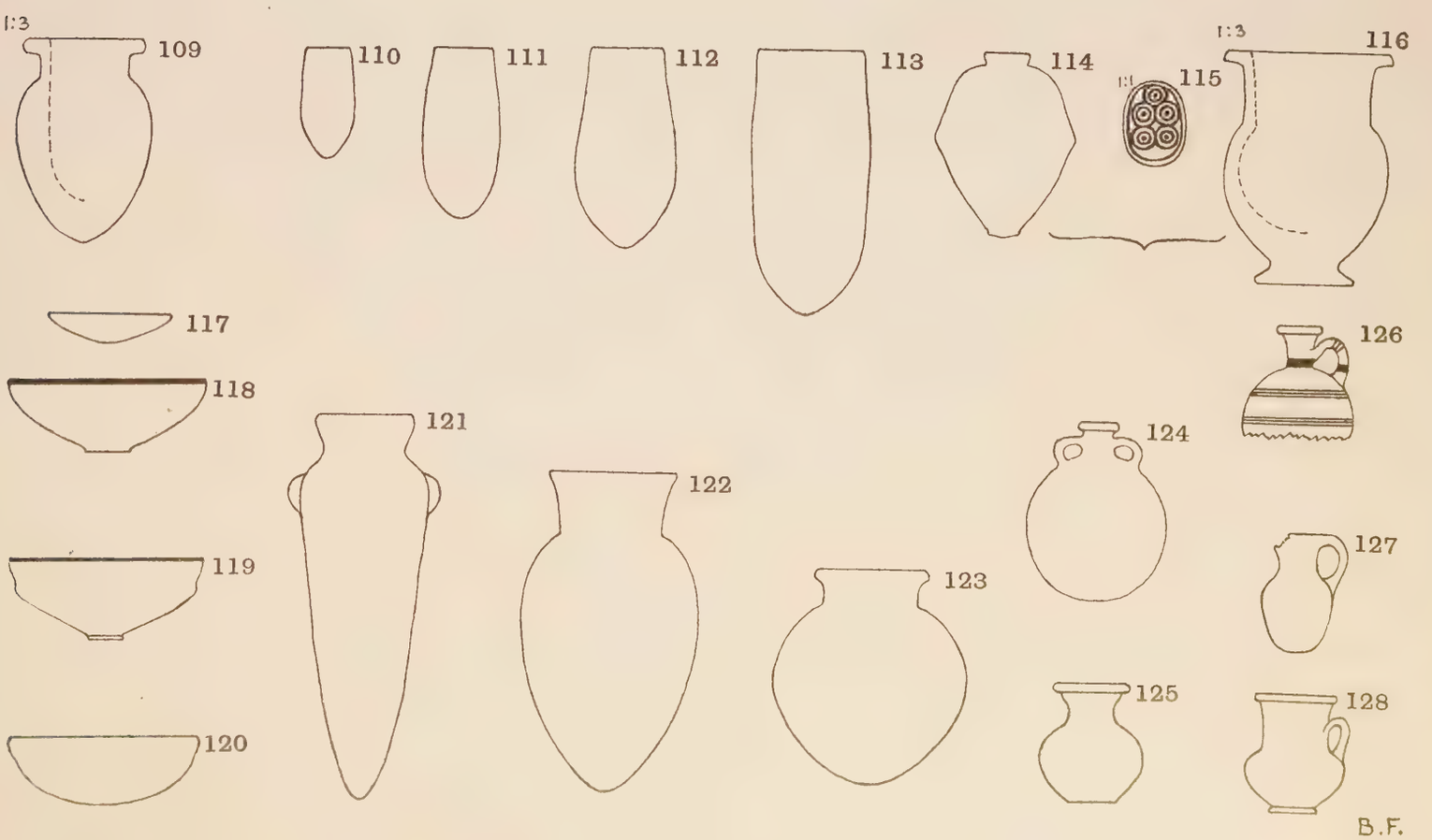
TOMB 31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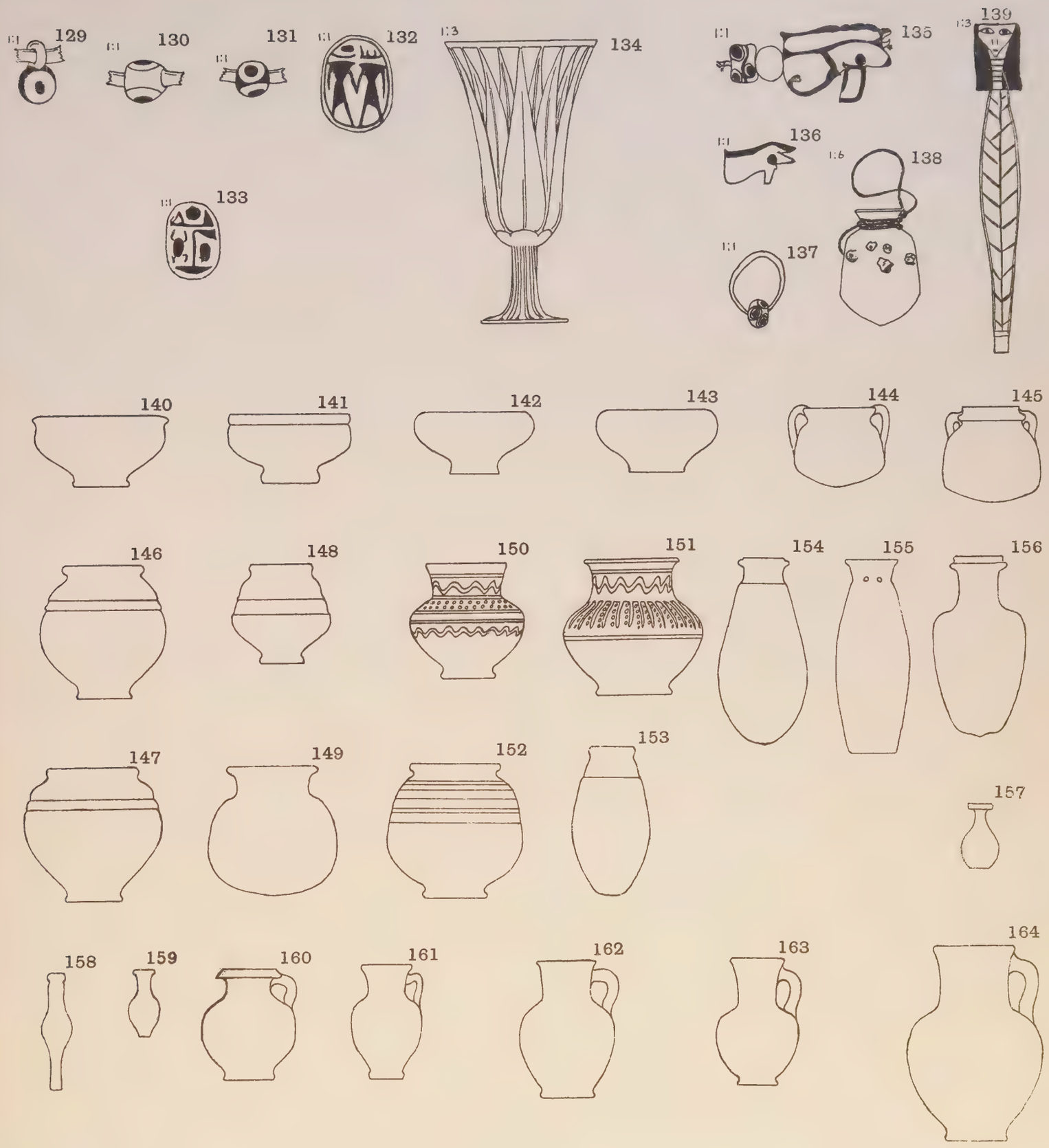
B.F.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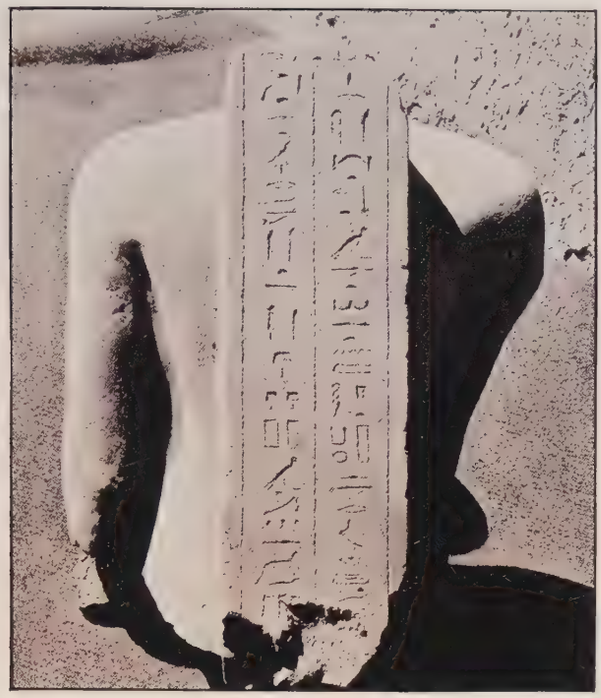
B.F.



1 SAITIC TORSO.

3 QUARTZITE SANCTUARY OF AMENHOTEP III.

4

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QUARTZITE SANCTUARY OF AAHMES WITH PORTRAIT

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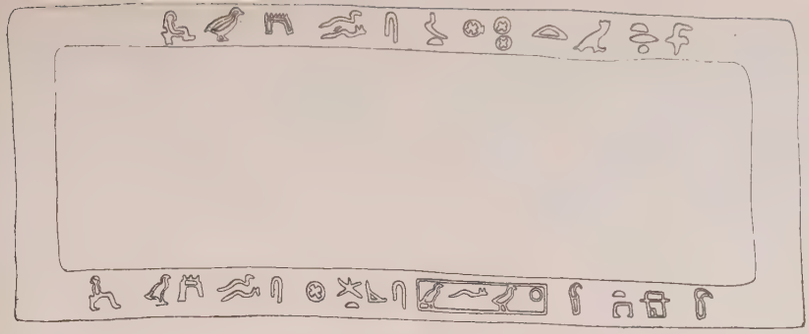
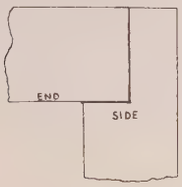
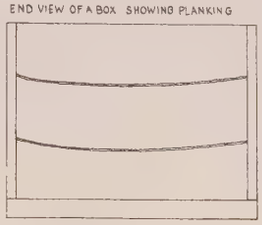


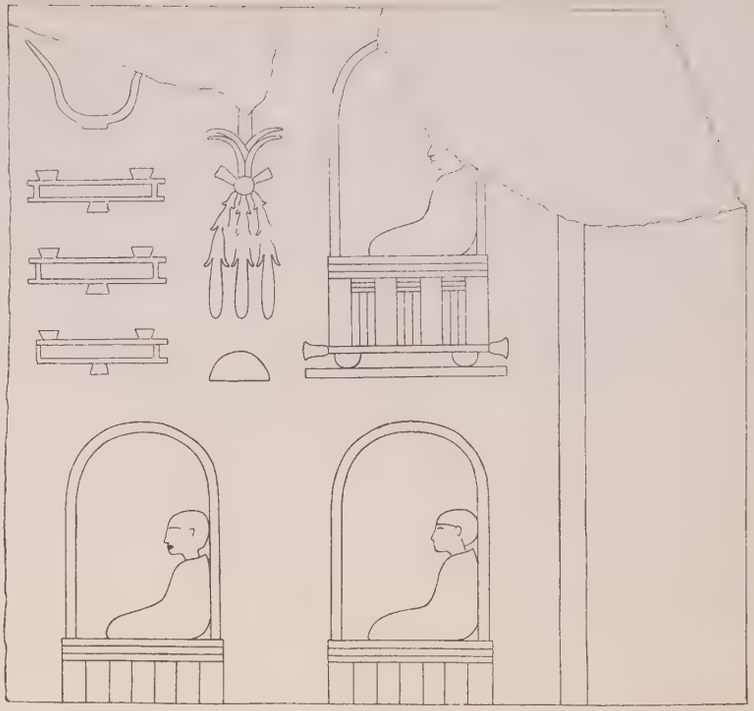
ALTAR OF SEZEFAU. MEYDUM.

1:3 METHOD OF FASTENING CORNERS OF BOXES

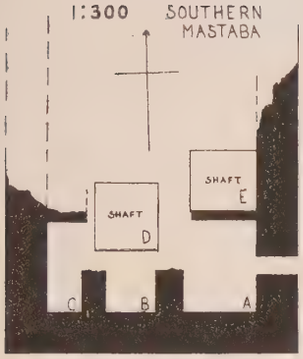


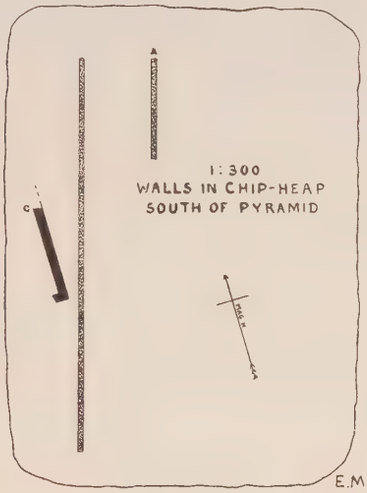
1:15 END VIEW OF A BOX SHOWING PLANKING





1:300 SOUTHERN MASTABA





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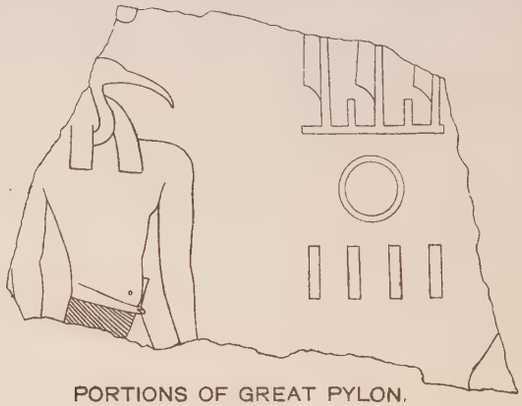

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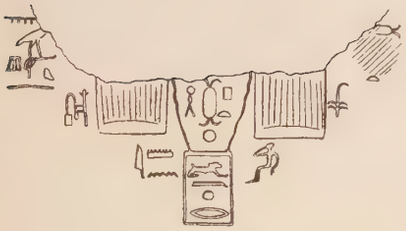

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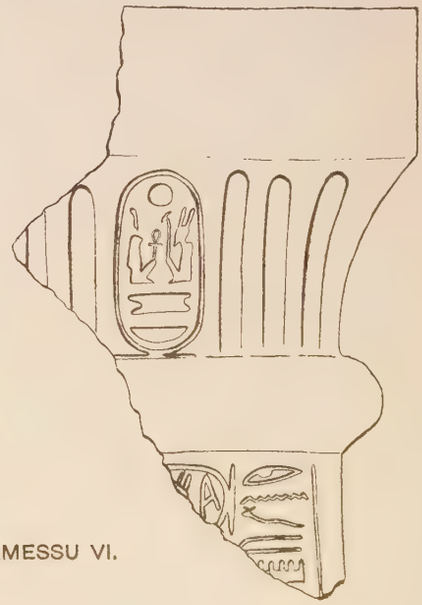

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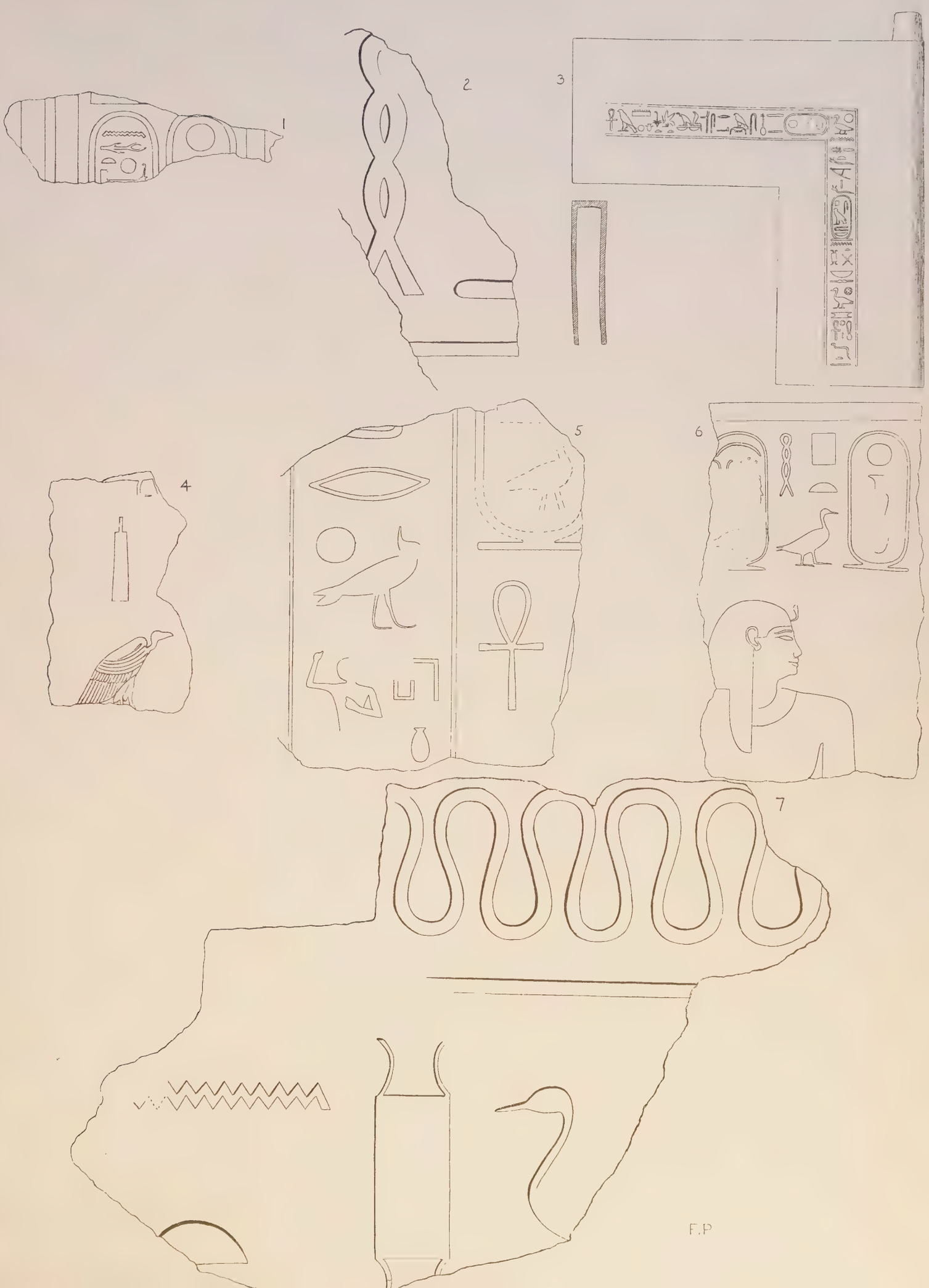
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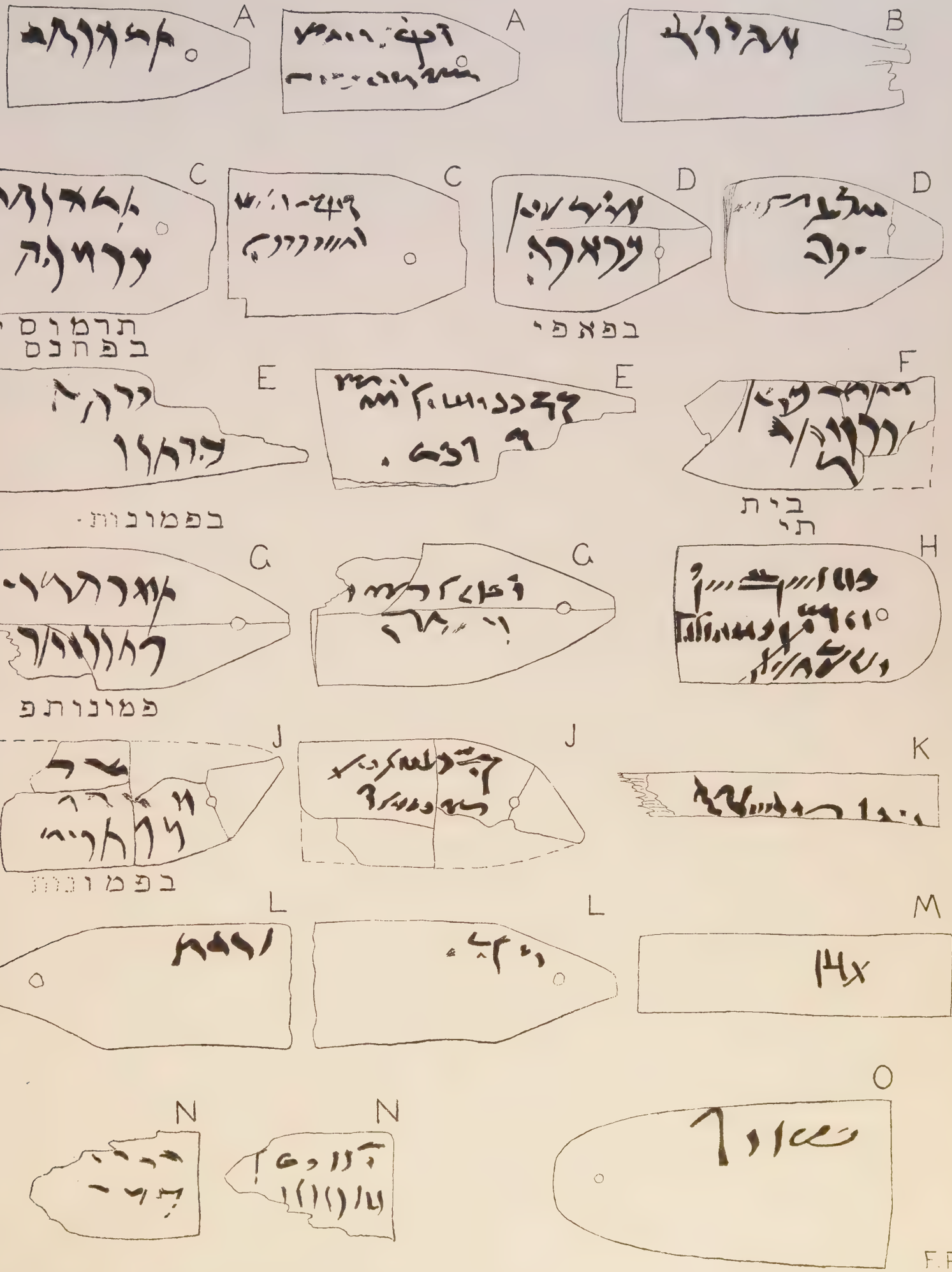
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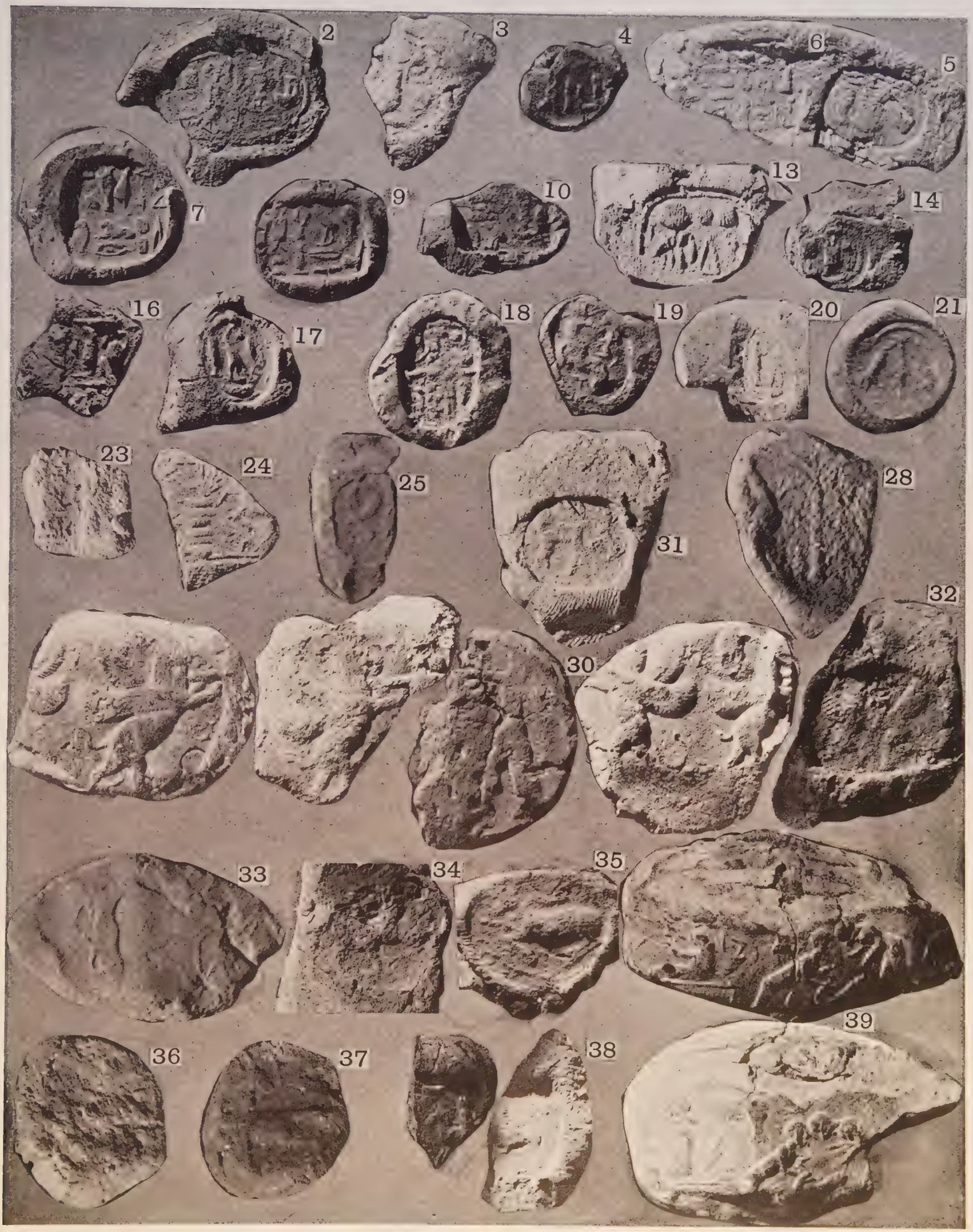
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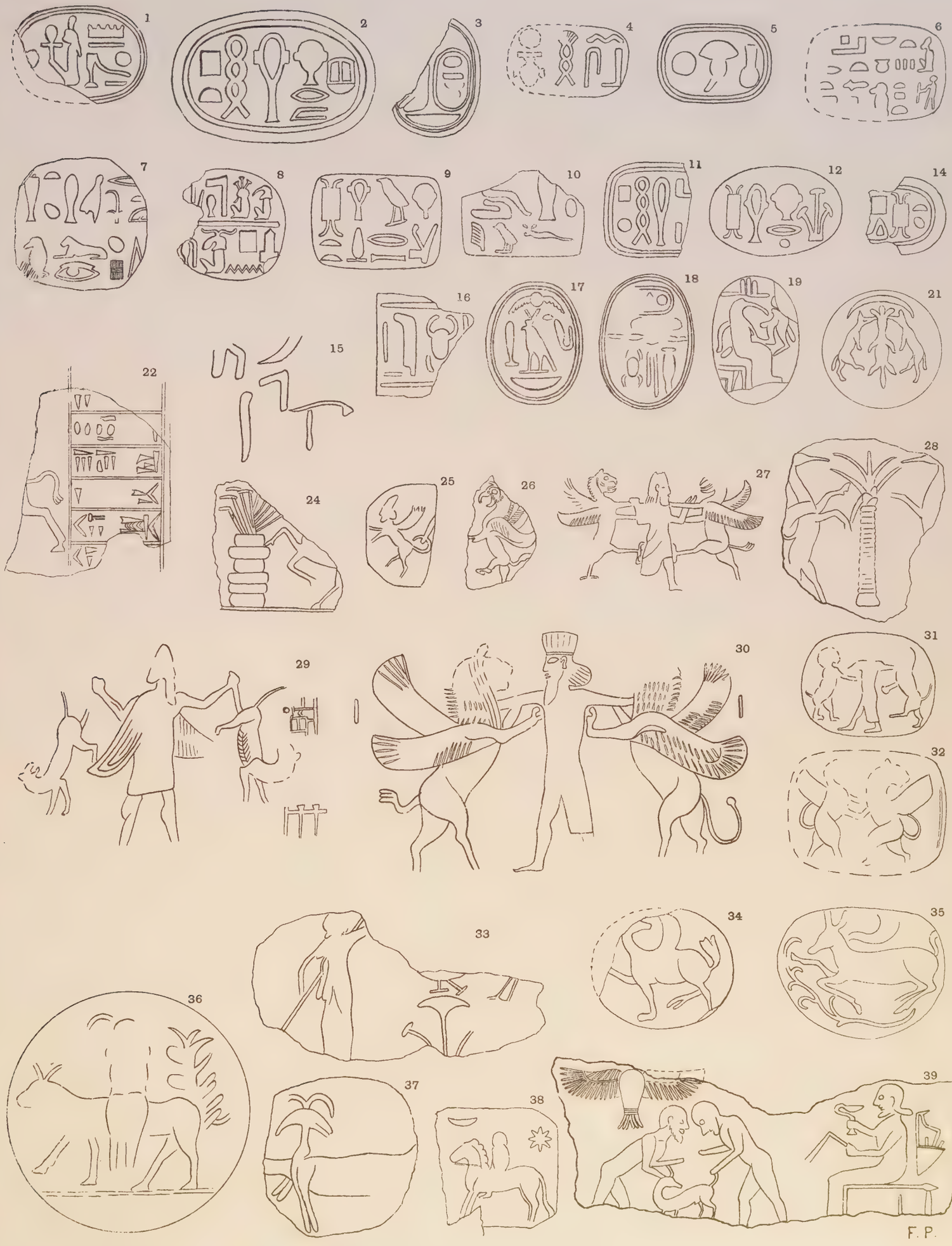
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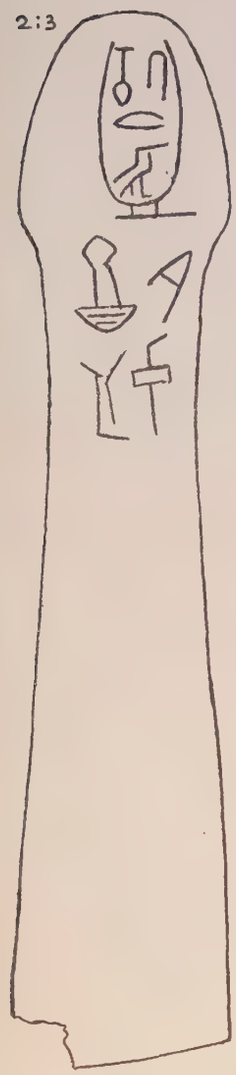

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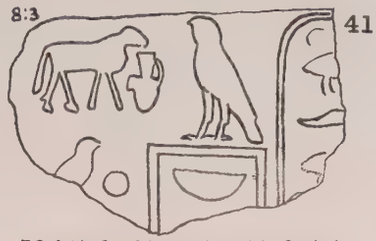

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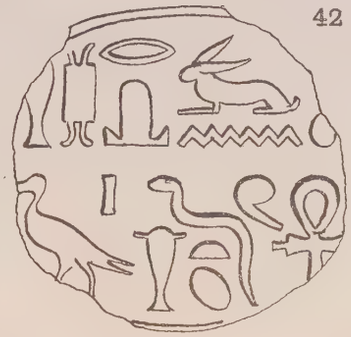

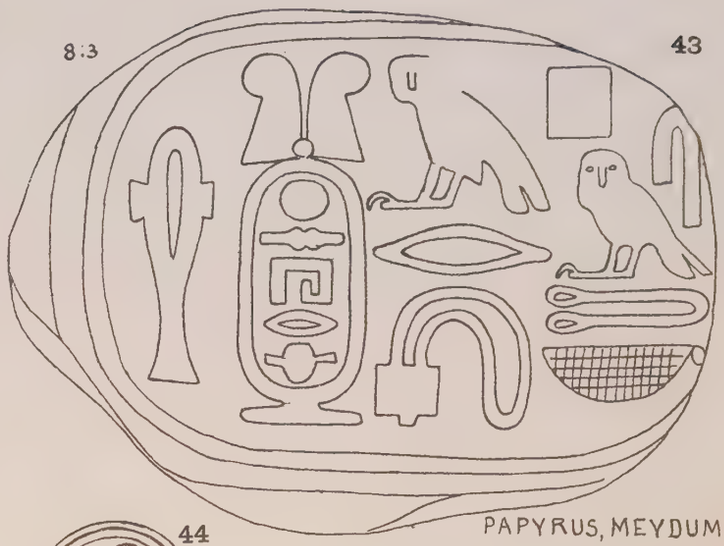

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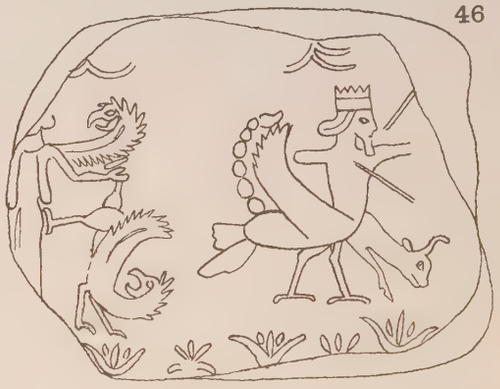
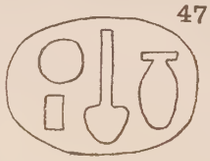
PAPYRUS MEYDUM





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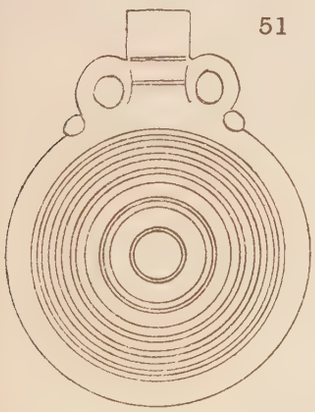

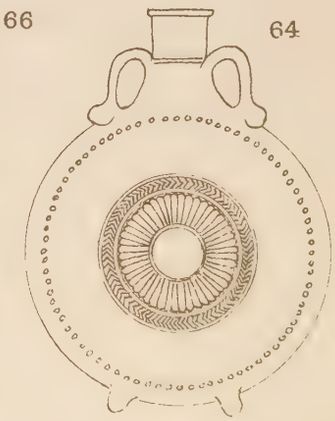

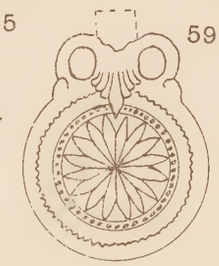

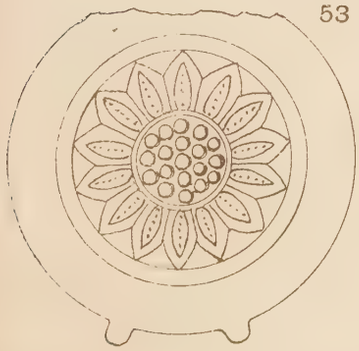

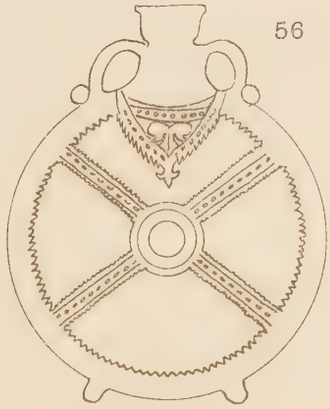

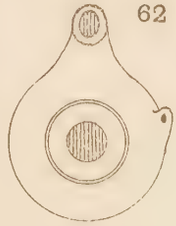

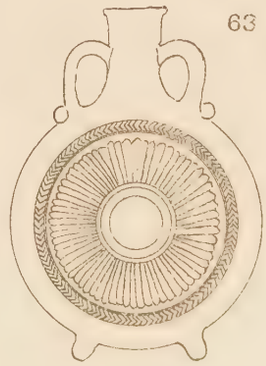

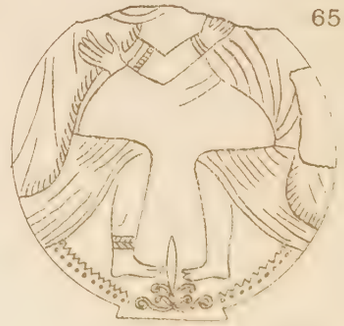

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WOODEN HEADREST, MEYDUM.

5 STELE OF RESHPU

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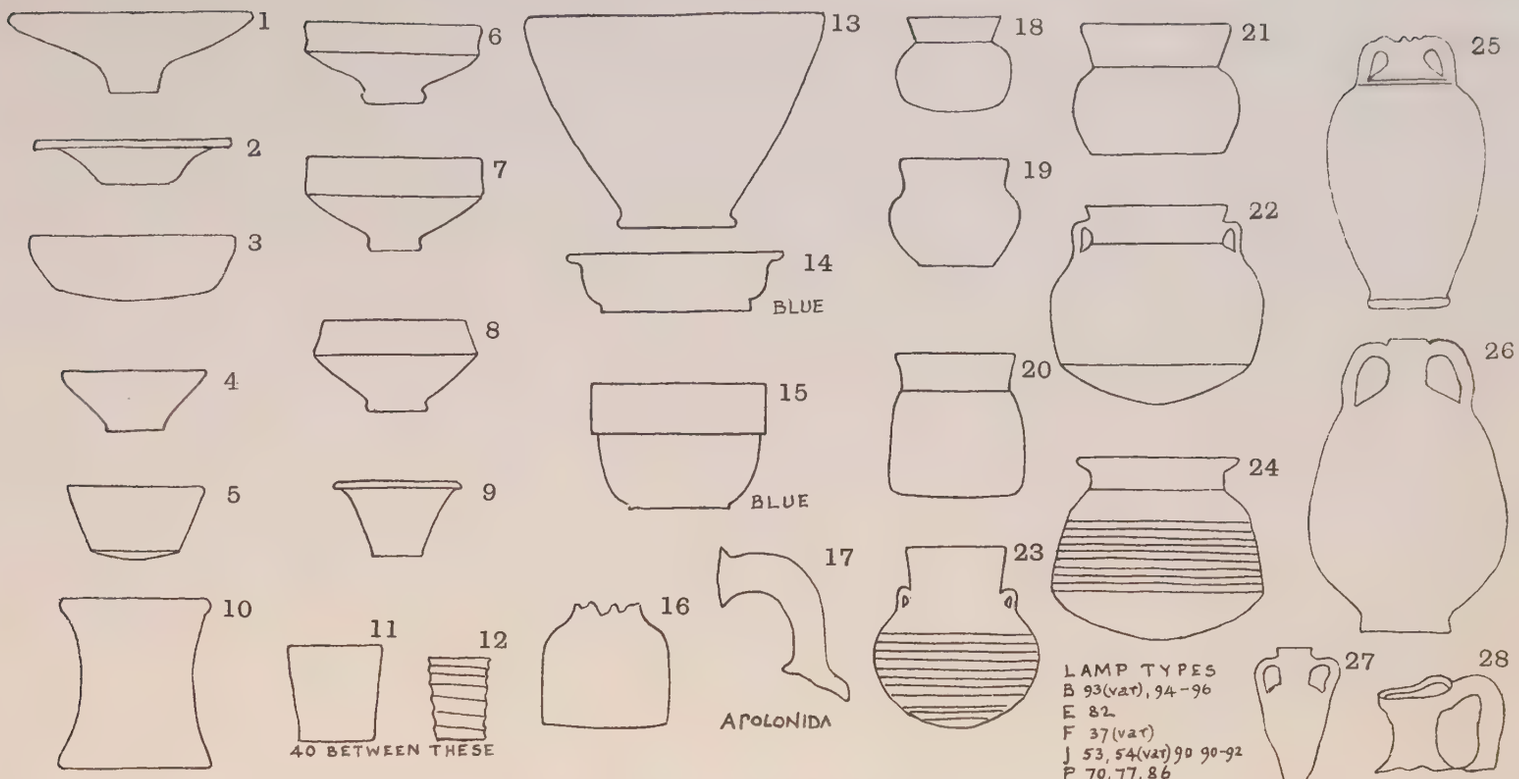
HOUSE A

HOUSE C



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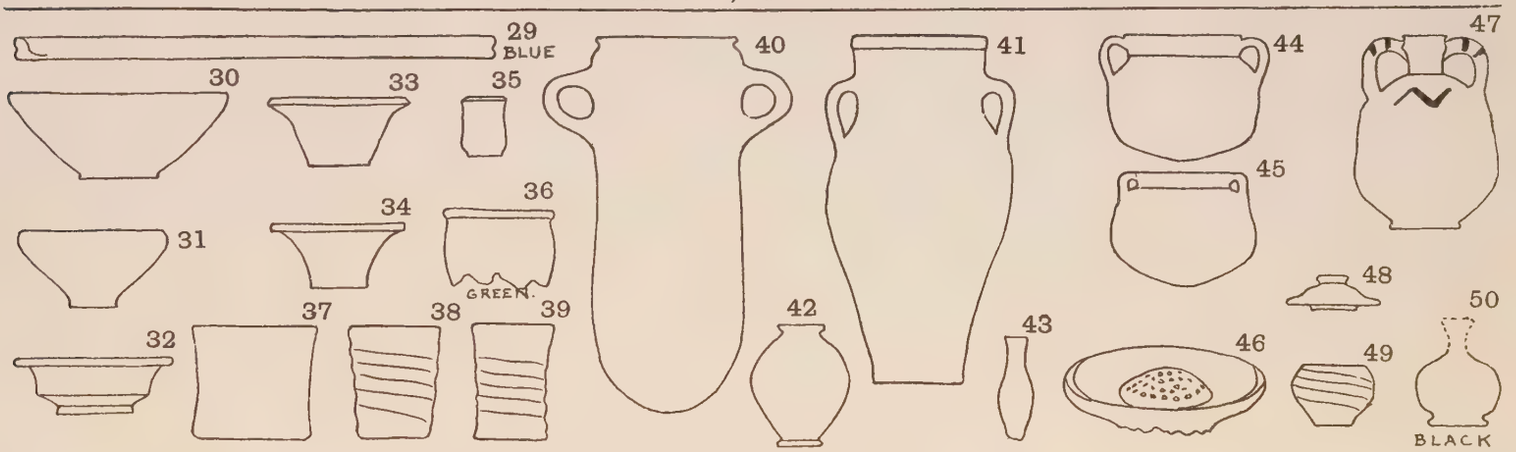

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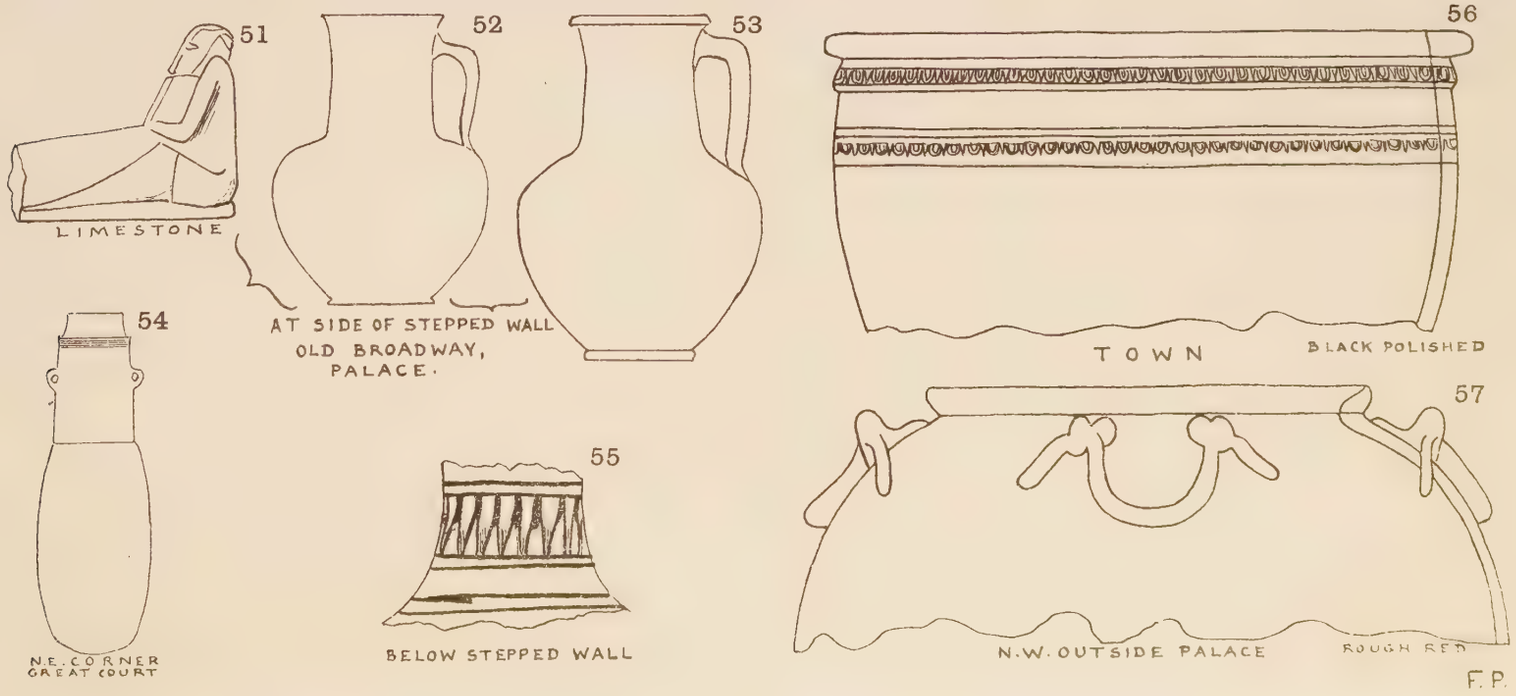

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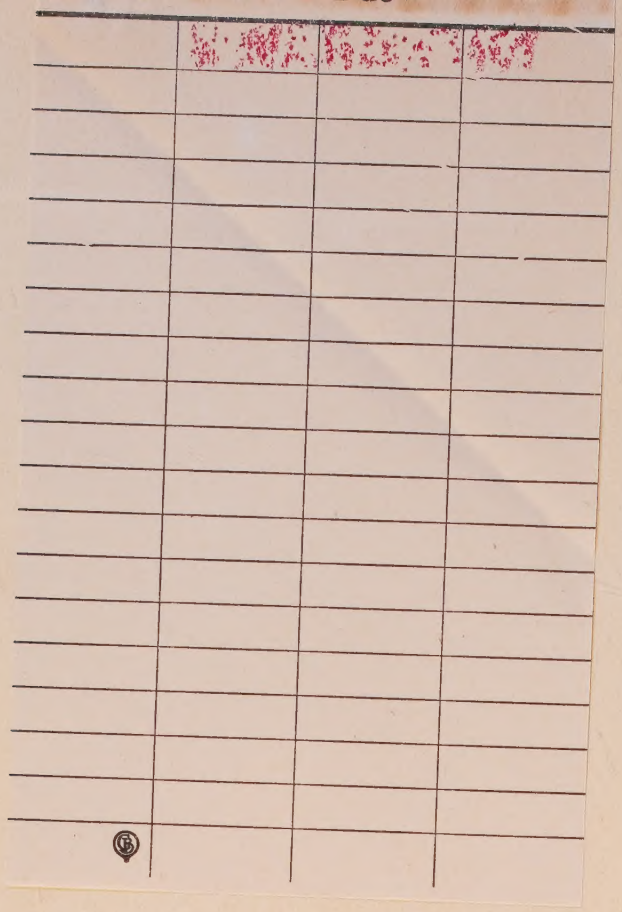

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